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AUTHOR Christenson, Leo G., Comp.; Mercer, John W., Comp.
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ABSTRACT

This document contains task force findings and recommendations regarding development of a statewide plan for facilitating education and employment transitions (EET) of youths and adults throughout Minnesota. Chapter 1 presents a rationale for a statewide EET system in the context of the employment/earnings patterns of Minnesota youths and adults, productivity and global competition, labor needs, lifelong learning, and workplace dynamics in a changing culture. Outlined in chapter 2 are underlying assumptions and characteristics/attributes of Minnesota's system for EET. Chapter 3 presents seven recommendations focusing on establishment of a lifework development system, work-based learning, learner outcomes, learner support, professional development, coordination, and standards. Described in chapter 4 are representative EET programs sponsored by government, education, and nonprofit agencies/organizations in Minnesota. Chapters 5 and 6 discuss national efforts for EET in the United States and EET in Western Europe and Japan. Barriers to EET and the role of the public and private sectors in EET are analyzed in chapters 7 and 8, respectively. Appended are excerpts of legislation pertinent to the task force's mission/operation, biographical profiles of task force members, and lists of task force meeting sites/dates and invited speakers. Contains 97 references. (MN)

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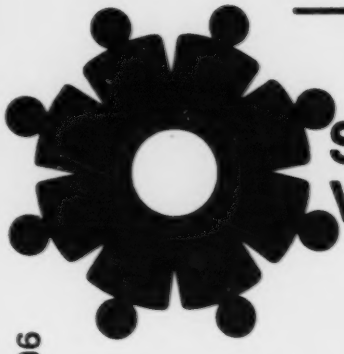

State Council on Vocational Technical Education

STATE OF MINNESOTA

MAKING THE FIRST CHANCE A REAL CHANCE: BRIDGING EDUCATION AND WORK FOR ALL MINNESOTA YOUTH AND ADULTS

Minnesota Task Force on Education and Employment Transitions

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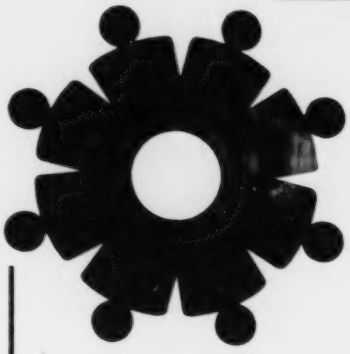

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366 Jackson Street, Suite 314, St. Paul, Minnesota 55101
TEL: 612/296-4202 • FAX: 612/297-7786
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MAKING THE FIRST CHANCE A REAL CHANCE:

BRIDGING EDUCATION AND WORK FOR ALL

MINNESOTA YOUTH AND ADULTS

Report to the 1993 Legislature

Minnesota Task Force on Education and Employment Transitions

Compiled and Edited By:

Leo G. Christenson
John W. Mercer

State Council on Vocational Technical Education
366 Jackson Street, Suite 314
St. Paul, MN 55101
Tel: 612/296-4202 Fax: 612/297-7786

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Table of Contents

Acknowledgements	iii
Preface	v
Executive Summary	1
Part One	
Chapter One: Make the First Chance a Real Chance for All: An Education and Employment Transitions System is Critical	19
Chapter Two: Characteristics and Attributes of Minnesota's System for Education and Employment Transitions	29
Chapter Three: Recommendations	35
Part Two	
Chapter Four: Education and Employment Transitions in Minnesota	43
Chapter Five: National Efforts for Education and Employment Transitions	47
Chapter Six: Education and Employment Transitions in Other Countries	53
Chapter Seven: Barriers to Education and Employment Transitions	61
Chapter Eight: The Role of Public and Private Sectors in Education and Employment Transitions	65
Appendices	
Appendix One: Task Force Legislation	71
Appendix Two: Task Force Meetings	73
Appendix Three: Speakers to the Task Force	75
Appendix Four: Biographical Profiles	77
Reference List	87

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The Council wishes also to express its gratitude for the contributions of the Legislature, executive departments, and educational systems who hosted meetings and provided support for guest speakers and other activities. These contributions were key to the task force being effective in completing its work.

PREFACE

This report is to the Minnesota Legislature, setting forth the plans and recommendations of the Task Force on Education and Employment Transitions. The task force was mandated by the Legislature and established by the State Council on Vocational Technical Education during 1991. The task force was charged with the development of a statewide plan for implementing programs for education and employment transitions.

The Legislature defined "education and employment transitions" as meaning

> those processes and structures that provide an individual with awareness of employment opportunities, demonstrate the relationship between education and employment and the applicability of education to employment, identify an individual's employment interests, and assist the individual to make transitions between education and employment. (Laws of Minnesota for 1991, Chap. 265, Art. 8, Sect. 16.)

The Legislature called for the statewide plan to identify:

1. Existing public and private efforts in Minnesota that assist students to make successful transitions between education and employment,
2. Programs in other states and countries that are successfully preparing individuals for employment,
3. How to overcome barriers that may prevent public and private collaboration in planning and implementing programs for education and employment transitions,
4. The role of public and private groups in education and employment transitions,
5. New processes and structures to implement statewide programs for education and employment transitions,
6. How to integrate programs for education and employment transitions and outcome-based education initiatives,
7. How to implement programs for education and employment transitions in Minnesota, and
8. Models for administrative and legislative action.

The Legislature provided for the task force membership. The statutorily designated members included two members of the Minnesota Senate and two members of the Minnesota House of Representatives, the president of the University of Minnesota, and the chancellors of the state universities, community colleges, and technical colleges, the president of the Minnesota Private College Council, and a representative of the Minnesota Association of Private Postsecondary Schools. Also designated as task force members were the commissioners of education, jobs and training, trade and economic development, human services, and labor and industry. These members had the option to appoint designees.

In addition, community interests were represented by ten task force members appointed by the State Council on Vocational Technical Education. The interests were described by the Legislature as "education, labor, business, agriculture, trade associations, local service units, private industry councils, and appropriate community groups."

The task force met 14 times between September 1991 and January 1993. The task force went through an extensive period of information gathering and deliberation, with presentations and discussions with invited guests and with members of the Transitions Resource Team (the group of senior staff assigned by their respective agencies to provide assistance to the task force). These presentations were designed to address the areas that the Legislature directed to be identified in the statewide plan. The results of this inquiry are presented in the report.

The task force then began development of a statement of characteristics and attributes to define the expectations, boundaries, behaviors, and outcomes it considered essential for a successful system for education and employment transitions. This statement provided a base for the work of the Plan Design Group in the development of the report, particularly the recommendations.

The Plan Design Group was made up of nine task force members appointed by the State Council on Vocational Technical Education to develop the statewide plan as provided for in the legislative mandate. The Plan Design Group met 16 times between July 1992 and January 1993. The task force took final action on this report and completed its work on January 6, 1993.

Biographical profiles for the task force (indicating design team membership) and for the resource team are included in the appendices to this report. Schedules of meetings for the task force, design team, and resource team are also included in the appendices.

The Legislature appropriated $40,000 to the State Council on Vocational Technical Education for this work. The Legislature specified that the task force present an interim report by February 15, 1992 and report its plan and recommendations to the Legislature by January 15, 1993.

EXECUTIVE SUMMARY

Introduction

The overwhelming majority of Minnesota youth will work most of their adult lives. To be self-sufficient contributing members of the workforce, they need to be prepared in a purposeful and timely manner.

Minnesota youth need to learn about work and how to work. They need to learn about the kind of work that is available now and in the future. They need to understand how their education—acquired now and during the years ahead—relates to the kind of work they will be able to do. They also need to understand how their education relates to their ability as adults to support themselves and their families.

Transitional periods are times of uncertainty and vulnerability which we all experience over the course of our lives. Minnesota youth need to learn how to get ready for transitions between education and work. They need to learn how to make these transitions successfully. Furthermore, they need to understand why they may make a number of these transitions over the course of their worklife.

Americans have been told that of all the industrialized countries, the United States does the least to support its youth in transitions between education and work (America's Choice 1990, Forgotten Half 1988). Services available to Minnesotans tend to be piecemeal and disjointed at best. Programs, projects, and activities—often uncoordinated and not available to all—do not constitute a system. Minnesota must provide an education and employment transitions system—complete and whole. To lay the foundation to establish such a system inspired the creation of the Task Force on Education and Employment Transitions.

Legislative Charge

This report is to the Minnesota Legislature and sets forth the findings and recommendations of the Task Force on Education and Employment Transitions. The task force was mandated by the Legislature and established by the State Council on Vocational Technical Education during 1991. The task force was charged with the development of a statewide plan to put

in place a system, envisioned by the Legislature, that will help Minnesotans make successful education and employment transitions.

By "education and employment transitions," the Legislature means

> those processes and structures that provide an individual with awareness of employment opportunities, demonstrate the relationship between education and employment and the applicability of education to employment, identify an individual's employment interests, and assist the individual to make transitions between education and employment. (Minnesota. Laws of Minnesota. 1991. Chap. 265, art. 8, sec. 16, subd. 1.)

The Legislature called for the statewide plan to identify:

1. Existing public and private efforts in Minnesota that assist students to make successful transitions between education and employment,
2. Programs in other states and countries that are successfully preparing individuals for employment,
3. How to overcome barriers that may prevent public and private collaboration in planning and implementing programs for education and employment transitions,
4. The role of public and private groups in education and employment transitions,
5 New processes and structures to implement statewide programs for education and employment transitions,
6 How to integrate programs for education and employment transitions and outcome-based education initiatives,
7. How to implement programs for education and employment transitions in Minnesota, and
8 Models for administrative and legislative action.

The task force approached its charge by (a) inviting presentations and commissioning technical papers to address the components specified by the Legislature, (b) developing a set of characteristics and attributes for Minnesota's system of education and employment transitions, and (c) developing recommendations that provide the foundation for establishing a system of education and employment transitions.

Characteristics and Attributes of Minnesota's System for Education and Employment Transitions

The task force developed a statement on the characteristics and attributes it considered essential to a successful education and employment transitions system. These characteristics and attributes prescribe the expectations, outcomes, behaviors, and boundaries of the system and, in turn, provide the foundation upon which the plan is built. These statements were developed over a period of several months and reflect both the broad diversity of interests represented on the task force and the commitment to lay the groundwork for systemic change which all agreed is imperative.

Assumptions

Seven statements express assumptions of the task force which support the characteristics and attributes which in turn set the parameters for the statewide plan.

1. All individuals can learn and become participating and contributing members of society.
2. All individuals need to develop and continually improve their knowledge, skills, and personal qualities to meet their employment and life goals.
3. The system for education and employment transitions is responsible for meeting individual needs. The individual is responsible for taking advantage of the opportunities provided by the system.
4. The public, private, and independent sectors–including parents, students, employers, educators, and other service providers will work together to anticipate and address current, emerging, and future educational, workforce, economic, cultural, and demographic needs.
5. All will work together in a constructive and ethical manner.
6. Individuals of all ages can benefit from assistance in making education and employment transitions.
7. There is a growing awareness of the value of collaboration as opposed to competition in how individuals and organizations relate to one another.

Characteristics and Attributes

The task force developed eight statements regarding the characteristics and attributes it considered necessary for Minnesota to have a successful system for education and employment transitions. The characteristics and attributes lay out the expectations, outcomes, and boundaries of the system.

A successful system for education and employment transitions:

1. Prepares individuals to be participating and contributing members of society. Therefore, the system:
   a. Explains that one of the primary ways a person contributes and participates in society is through work.
   b. Helps people learn the knowledge, skills, and attitudes to be productive workers.
2. Recognizes that all transitions are periods of uncertainty and vulnerability. Therefore, the system:
   a. Accepts responsibility for meeting the education and employment transitions needs of individuals.
   b. Prepares individuals for education and employment transitions.
   c Helps individuals make education and employment transitions.
   d. Enables individuals during education and employment transitions.
3. Describes its processes and clearly communicates expectations and outcomes for all stakeholders. Therefore, the system:
   a. Describes service providers and other stakeholder groups.
   b. Describes and communicates the integration of all components that serve workforce education needs.
   c. Describes and communicates the processes and services of each system component.
   d Describes and communicates information about the requirements and points for entry and exit.
   e. Provides current and relevant information on an on-going basis.
   f. Provides counseling that helps individuals to identify and develop employment goals and acquire the knowledge, skills, and attitudes to achieve those goals.

4. Is readily accessible by each stakeholder. Therefore, the system:
   a. Is visible and accessible to all persons regardless of race, creed, gender, socioeconomic status, ability or disability, language, culture, sexual orientation, marital status, age, and location.
   b. Integrates existing health and human services, education, and work systems.
   c. Provides entry and exit points that are multiple, visible, and user-friendly.
   d. Uses processes that promote effective and efficient communication and collaboration.
   e. Has the financial and human resources to be effective and efficient.
5. Focuses on learning and learner outcomes rather than educational processes and structures. Therefore, the system:
   a. Establishes outcomes through a collaborative process involving all stakeholders.
   b. Identifies and communicates clearly what learners need to know and be able to do.
   c. Provides learning opportunities that are flexible and responsive to individual and societal needs and interests.
   d. Accommodates different learning styles and learning rates.
   e. Fosters habits and attitudes that facilitate learning throughout life.
   f. Builds upon what the learner already knows and can do.
   g. Validates learning regardless of where it occurs.
   h. Assesses learning against established performance standards developed through broad and continuing stakeholder involvement.
   i. Uses a variety of methodologies and instruments to assess and document learner knowledge, skills, and attitudes.
   j. Provides learners with clear criteria so they can assess their own progress.
6. Builds learning experiences on the premise that learning is accelerated and retention, comprehension, and use are enhanced when related to life and work. Therefore, the system:
   a. Embeds career awareness and work values into the curriculum beginning in kindergarten.

b. Recognizes the importance of and encourages the active participation of parents, guardians, and other extended family members.

c. Integrates work-based and vocational experiences into the learning of each individual.

d. Helps students learn about community needs through experiences in community service.

e. Organizes teaching and learning around relevant life experiences that are almost always interdisciplinary.

f. Provides for a progression of experiential learning activities in family, work, school, and community.

7. Establishes credentialing processes and structures. Therefore, the system:

a. Uses standards and credentials that meet or exceed national and international standards.

b. Recognizes that some existing standards meet or exceed national and international standards and were established through broad and continuing involvement of stakeholders.

c. Involves stakeholders in establishing and continuously updating performance standards.

d. Has stakeholders that use established and recognized credentials as the basis for employment.

8. Addresses current and anticipates new and emerging workforce needs to enhance economic growth and the creation of personally fulfilling work. Therefore, the system:

a. Promotes collaboration among all stakeholders to identify existing and future knowledge, skills, and attitudes required by the workforce to meet societal needs and goals.

b. Identifies new and emerging technologies and delivers educational programs for the on-going preparation of the workforce.

c. Forecasts and communicates existing and projected workforce supply and demand.

d. Assists employers in meeting their ongoing need to upgrade employee skills.

e. Assists individuals in finding employment or building their own entrepreneurial enterprises.

Recommendations

The Task Force on Education and Employment Transitions offers seven recommendations. The task force sees these recommendations as the foundation for a *systemic* approach to education and employment transitions for Minnesotans of all ages and heritages. The first recommendation is the footing of the system's foundation, the second is the cap, and the other five—together with the statements of the system's characteristics and attributes—support, reinforce, and define the first two.

The focus of the recommendations is on systems rather than agencies and programs. Implementing these recommendations as programs, projects, and activities would undermine their intent and design. The intent and design of the recommendations, building on the characteristics and attributes, is to create a comprehensive coordinated system—which includes education, business, and labor and other interests—that routinely uses collaborative processes to develop and provide workforce education. The full and continuing participation of public and private sector stakeholders is essential.

These recommendations are designed to develop a system that makes the transitions between education and employment understandable and accessible to all. For learners and workers of all ages, the system must aid (a) in developing plans and strategies to achieve education and employment goals, and (b) in matching these individual goals with the needs of high performance work organizations in a global economy. Overall, these recommendations aim to create solid first chances that lead to fulfilling, productive lifework for all Minnesotans.

The model for a lifework development system is the base of the foundation for the education and employment transitions system. The lifework development system is the focus of the first recommendation and reflects the fact that there is a body of knowledge about the nature and variety of work that each individual needs to learn. This includes the fact that most people work the greater part of their adults lives and that there is a direct relationship between what one learns and the work one is able to perform. The lifework development system is to inform, guide, and nurture the individual in learning and planning from an early age and, when appropriate, aid the individual in moving through one's lifework.

The second recommendation builds on the first and presents a model for work-based learning for all Minnesota youth. The recommendation does not propose a program for the few. Rather, the second recommendation proposes a model for integrating work-based learning as part of the formal outcome-based education of *all* Minnesota youth. The work-based learning model also provides for meeting the work-based learning needs of adults. For all students, work-based learning would provide the basic

knowledge, skills, and attitudes required to be effective workers in a variety of workplace settings. Also, for students who select it, work-based learning would provide the knowledge, skills, and attitudes required to be effective workers in specific occupations.

The third recommendation defines the relationships among the systems for lifework development, work-based learning, and outcome-based education. The fourth recommendation recognizes and builds on the importance of the learner's family and other elements of the learner's social network in ensuring success in education and work. The fifth recommendation calls for providing all education providers with the professional development opportunities necessary to establish and maintain Minnesota's education and employment transitions system. The sixth recommendation outlines the processes for the collaborative planning and delivery of education, health, and human services. The seventh recommendation outlines the processes for the collaborative development and implementation of world class performance standards for Minnesota's education and employment transitions system.

The Task Force on Education and Employment Transitions recommends that:

Recommendation One: Lifework Development System. Minnesota create a comprehensive lifework[1] development system.

The lifework development system will:

a. Inform all learners at an early age that they will work throughout their lives.

b. Inform learners about the nature of work.

c. Deliver timely and accurate information about current and future work in local, national, and global marketplaces characterized by rapid change.

d. Facilitate continuous lifework planning for each learner.

e. Assist each learner in the selection of formal and informal learning experiences for lifework preparation.

f. Provide learners with assistance and direction in seeking, obtaining, and advancing in their lifework.

[1] The task force uses "lifework" to refer to one's work over a lifetime and how that work is accomplished and enhanced (a) through planned and evaluated learning experiences and (b) in relationship to the other roles, in addition to being a worker, that one plays as a member of a family and community.

g. Define the role of and include learners, families, social networks, educators, employers, and other community interests in lifework development.

h. Be accessible to learners, dislocated workers, currently employed workers, and those making lifework changes.

i. Collect and provide information on the actual transitions from education to employment and from education to further education.

j. Provide learners with specific occupational information through direct access to workers in a variety of occupations.

k. Reflect the dynamic nature of changing employment forecasts and emerging occupations.

l. Develop new processes for the preparation and deployment of individuals whose primary role is lifework planning and development.

Recommendation Two: Work-based Learning. Under state policy directive, education, business, and labor collaboratively be responsible for integrating work-based learning into lifework preparation for all learners.

Work-based learning:

a. May be obtained through a variety of experiences, e.g., on-the-job training, youth and adult apprenticeships, cooperative work experience, work-study, after-school and summer jobs, and internships.

b. Has two basic purposes: (1) for all students, work-based learning would provide the basic knowledge, skills, and attitudes required to be effective workers in a variety of workplace settings, and(2) for students who select it, work-based learning would provide the knowledge, skills, and attitudes required to be effective workers in specific occupations.

c. Will be planned and evaluated.

d Will be required for high school graduation.

e. Will be provided for learners of all ages.

f. Will employ and integrate collaborative processes to define the roles and responsibilities of learners, workers, employers, and educators.

g. Will be carried out under an agreement among the learner, the educator, the worker, and the employer.

h. Will provide the learner with a formal record of validated knowledge and skills.

i. Will be based on the current and future needs of the learner, employer, and workforce.

j. Will have clearly established learner outcomes aligned with work-based experiences.

k. Will equip both young and adult learners to decide which education and employment options to pursue next in their lifework development.

l. Will equip the learner with the knowledge, skills, and attitudes that are required to be effective on-the-job.

m. Will build the learner's self-esteem, discipline, and motivation.

Generalized work-based learning will:

a Inform learners at an early age that they will work throughout their lives.

b. Equip learners with the knowledge, skills, and attitudes that are required to be effective on-the-job.

c. Provide a setting to gain understanding of the wide range, changing nature, and growing importance of the "know-how" that is integral to work.

d. Be driven by learner outcomes.

e. Investigate a variety of occupations and workplaces.

Occupation-specific work-based learning will:

a. Develop the knowledge, skills, and attitudes for specific occupations.

b. Vary in scope and duration according to learner goals, occupational areas, and available opportunities.

c. Provide protection for current workers, employers, and learners.

d. Use a collaborative process to develop learner outcomes, curricula, instructional methodology, and assessment.

e. Be driven by learner outcomes.

f. Use a collaborative process to develop feedback systems for learners, employers, educators, and other stakeholders.

g. Provide monetary compensation for the learner.

In order to develop a system of work-based learning:

a. The Legislature will provide incentives to public and private employers and educators, regardless of the size of the enterprise, to increase offerings of work-based learning for learners of all ages including current workers, workers in transition, and high school learners.

Recommendation Three: Learner Outcomes. Each learning center[2] develop clearly defined and understood learning outcomes through a collaborative process involving stakeholders.

The learner outcomes will:

a Be applicable to work and other aspects of life.

b. Be taught through processes in which the curricula, instruction, and assessment are aligned, complementary, and compatible.

c. Be achieved through learning experiences tailored to an individual's learning rate, needs, and style.

d. Be validated regardless of where the learning occurs.

e. Be continuously updated and improved to reflect the dynamic nature of societal and work requirements.

Recommendation Four: Learner Support. Each learning center establish and maintain processes which invite, engage, and use learners, families, social networks, employers, and other community interests to ensure success for every learner.

Each learning center will:

a. Create processes to achieve these objectives regardless of its particular mission or the age of the learner served (e.g., the 55 year old displaced worker looking for work as well as the two year old in child care).

b. Define roles and expectations for itself and each of the other groups in ensuring success for every learner.

c. Improve the processes of invitation, engagement, and use by continuously measuring their effectiveness and making appropriate refinements and other adjustments.

[2] A learning center is any place where planned and evaluated learning activities take place. This can be an elementary school, a workplace, a college, a community center as well as a variety of other locations.

Recommendation Five: Professional Development. Minnesota establish a system to encourage, provide, and reward lifelong learning and continuous improvement of all education providers.

The professional development system will:

a Prepare and require educators to integrate lifework planning and development into student learning activities.

b. Define clear performance expectations for all education providers based on world-class standards.

c. Require all education providers to develop, implement, and continuously improve their own personal learning plans to enhance their professional knowledge, skills, and attitudes.

d. Provide incentives that encourage all educators to rise to peak levels of performance.

e. Provide periodic, multiple assessments of the competencies of education providers.

f. Require periodic curriculum-related, work-based experiences that enable educators to integrate workplace expectations into their classroom instruction.

g. Continuously improve and upgrade the entrance requirements and graduation standards for educator preparation programs.

h. Provide the resources and learning opportunities so that education providers can meet the standards.

i. Provide educator preparation programs that are outcome-based and prepare educators to facilitate learning in an outcome-based education system.

Recommendation Six: Coordination. Under state policy directive, educators, health and human services providers, and employers will collaborate with learners and their families to provide them with coordinated services for education and employment transitions.

To achieve this, collaboratively they will:

a. Design processes and structures to be responsive to individuals who face barriers to education and employment opportunities.

b. Create printed and electronic directories of employment and educational programs and support services and make them available to all stakeholders.

c. Improve continuously service coordination and eliminate unnecessary duplication.

d. Develop an electronic network to coordinate referrals about education, employment, and health and human services.

e. Deliver health and human services to learners in educational settings freeing educators and learners to focus on learning.

In order to achieve this coordination:

a. The Legislature will provide incentives to improve coordination and reduce unnecessary duplication.

Recommendation Seven: Standards. Under state policy directives, education, business, and labor collaboratively will establish world class performance standards for the education and employment transitions system.

The standards will:

a. Be based on world class benchmarks for education and employment and will be identified through collaborative efforts.

b. Be reflected in universally recognized credentials for attained and validated competencies.

c. Be reviewed and upgraded continuously to remain world class.

Education and Employment Transitions in Minnesota

The range and variety of programs that address education and employment transitions in Minnesota could be a foundation on which to build a comprehensive system. However, until these programs and others like them are integrated, the needs of the vast majority of non-college bound youth will continue to go unaddressed.

Federal Programs

The majority of federal programs in Minnesota dealing with education and employment transitions fall under the jurisdiction of the U.S. Department of Education and the U.S. Department of Labor. These programs are authorized by two federal laws, the Job Training Partnership Act (JTPA) and the Carl D. Perkins Vocational and Applied Technology Education Act of 1990. Programs funded under these acts include Summer Youth Employment and Training Programs and Tech Prep.

State Programs

The education and employment transitions programs in Minnesota are too numerous to list. However, there are a variety of programs that provide

ideas for a system of education and employment transitions. These programs range from the Minnesota Conversation Corps administered by the Minnesota Department of Natural Resources that provides year-round work and training in state parks for over 180 young people between the ages of 15 and 26 to the Voluntary Apprenticeship Program that, over the years, has helped thousands of Minnesotans prepare for high skill trades. In addition, Minnesota has a variety of secondary and postsecondary education programs that prepare people for work.

Education and Employment Transitions in Other States

Experiences in other states indicate that successful education and employment transition programs must be central to a state's educational reform. Successful programs are built upon the following principles:

a. A clear system of governance and clear roles for program participants (employers, labor, government, secondary schools, students, and two-year and four-year colleges and universities);

b. A system driven by the needs of industry which is a full participant;

c. Clear communication and standards to link high schools, work-based learning, and postsecondary education;

d. Program benchmarks and clear performance standards;

e. Programs linked to further education and lifelong learning; and

f. Effective support and guidance for all students.

On a national level, a certification and training program does not exist for non-college bound students. Those who make the transition into the workforce after high school without sufficient preparation often remain underemployed in low-skill jobs and uninformed of alternatives to a four-year college education. In return, employers must choose from workers who have low skills. A deliberate, systemic transition program would allow people to enter the workforce and/or educational programs as able, lifelong learners.

Education and Employment Transitions in Other Countries

While it is not possible to provide a complete catalogue reflecting the range and scope of international education and employment transition efforts, illustrative programs are examined and reviewed in this chapter.

In understanding the education and employment transitions systems in other countries, especially in Western Europe and Japan, important lessons

emerge for Minnesota policymakers as they debate the need for integrated employment transition systems in the state.

Lessons from Western Europe

a. *In-depth exploration of occupations and the world of work can be successfully integrated into the school curriculum at an early level.* In Germany, Sweden, and the Netherlands, secondary school students are given broad exposure to occupations and general aspects of the work world through a variety of mechanisms.

b. *The workplace can be much more effectively utilized as a place of learning and hence as an extension of schooling in the U.S. than it is at present.* Marketable skills can be successfully developed and reinforced through a structured program of learning which takes place principally in the workplace.

c. *Society must value the trades and occupations that do not require a university education.* The cardinal elements of the dual apprenticeship system in Germany, particularly extensive on-the-job and classroom training options, are clearly delineated skills standards in all apprenticeship trades, and national recognition of the successful apprentice's credentials. All enhance the credibility given to technical occupations.

Lessons from Japan

a. *The educational system should mirror the work environment.* Japanese companies encourage high-performance work environments which revolve around collective worker participation in shop floor decisions. Workers are often rotated to different positions around a plant. This indicates a need for workers who know how to cooperate, work in teams, and learn quickly.

b. *Schools must play a much stronger role in helping youths obtain employment.* In fact, youths in Japan obtain employment almost exclusively through school-employer linkages.

c. *Employers should take on much of the responsibility for developing the skills of the workforce.* About 75 percent of Japanese firms provide some training to their workers. The predominant type of training occurs on-the-job, where workers are usually rotated through the employment facility to learn all the different work processes.

Lessons for the United States:

There are three lessons the United States may take from the German system:

a. *In-depth exploration of careers and the world of work can be successfully integrated into the school curriculum at the junior high level.* In Germany, secondary school students are introduced to a variety of possible careers and general aspects of the work world through the efforts of the vocational information centers. Although there has been a general recognition in the U.S. of the need to begin and improve career counseling at earlier educational levels, efforts to do so have been haphazard. In Germany, they are firmly institutionalized.

b. *Workplaces can be much more effectively utilized as a place of learning and hence as an "extension" of school.* Learning in the workplace is the very foundation of the dual system. The U.S. could draw on the dual system's workforce training successes by implementing new, more extensive forms of student involvement with occupations likely to provide the moorings for a solid future career and a income. The dual system convincingly shows that marketable skills can be successfully developed and reinforced through a carefully structured program of learning which takes place principally in the workplace.

c. *Trades or occupations that do not require a university education should be valued.* The cardinal elements of the dual system—extensive on-the-job and classroom training options, clearly-delineated skills standards in all apprenticable trades, and nationwide recognition of the successful apprentice's credential—serve as a testament to the value Germany places on such occupations. Further, the apprenticeship structure is complemented by a balanced career education system: one that gives students early and realistic exposure to a full range of career options, including technical or trade occupations. In short, an extensive system caters to the needs of the non-university bound in Germany. The United States lacks such a supportive infrastructure for students who choose not to go to college.

Barriers to Education and Employment Transitions

The challenge for society, educators, employers, human service providers, students, and their families is to define the knowledge, skills, and attitudes individuals need to achieve success as workers, citizens, and family members. Unfortunately, society does not provide an effective system to

support these goals. It, in fact, has erected a number of barriers that limit effective transitions from education to employment, including:

a. Little coordinated leadership by public or private organizations to facilitate and direct these transitions;

b. Absence of integrated systems to formulate and implement policies and practices for education, training, and employment;

c. Few integrated efforts to prepare and continuously train current and prospective workers for a constantly changing workplace;

d. Personal and institutional attitudes, values, and beliefs that limit the creation of strategies for change; and

e. Narrow social definitions of education and learning.

The barriers described point to the failure of both public and private sectors to develop clear and accessible systems for education and employment transitions. Creating such systems requires leadership to commit to change and improvement; schools, businesses, and community organizations to work together; and society to change its attitude about learning and work.

The Role of Public and Private Organizations in Education and Employment Transitions

The task force heard testimony from a variety of national and state experts about the possibilities and challenges of constructing effective systems to improve the movement between education and employment. An important collection of themes emerged to guide the task force's deliberations and recommendations for an effective system of education and employment transitions in Minnesota:

a. The importance of collaboration between public and private sectors;

b. Delineation of the roles and responsibilities of governments, employers, labor, and other organizations;

c. Establishing uniform standards for success and certification; and

d. Developing meaningful evaluation strategies to assess the success of both systems and programs and using the data to continuously improve the system.

Public and private organizations have different roles to play in the development and implementation of a system for education and employment transitions. Both sectors should contribute to: (a) identifying needs; (b) providing resources and services, including support services; (c) mentoring students; (d) encouraging and advocating for transition programs; and

(e) ensuring continuous quality improvement. Public and private organizations might approach each of these areas differently or in specialized ways, but their efforts would extend the range of alternatives and resources available to clients and learners.

The discussions and presentations of the task force outlined the need for collaboration between the public and private sectors to develop a system for education and employment transitions. Without true public-private partnerships, the effectiveness of any transition system will be limited and prone to failure.

Conclusion

The characteristics and attributes and recommendations are the foundations for a system of education and employment transitions. If Minnesota is to develop this system, public and private stakeholders must work together to create the system and define the roles of each player within the system. This requires learning from ourselves as well as from other states and countries. One thing is clear, developing a system of education and employment transitions requires the long-term, systemic commitment of everyone involved with education and employment.

CHAPTER ONE

MAKE THE FIRST CHANCE A REAL CHANCE FOR ALL: AN EDUCATION AND EMPLOYMENT TRANSITIONS SYSTEM IS CRITICAL

Introduction

The overwhelming majority of Minnesota youth will work most of their adult lives. To be self-sufficient contributing members of the workforce, they need to be prepared in a purposeful and timely manner.

Minnesota youth need to learn about work and how to work. They need to learn about the kind of work that is available now and in the future. They need to understand how their education—acquired now and during the years ahead—relates to the kind of work they will be able to do. They also need to understand how their education relates to their ability as adults to support themselves and their families.

Transitional periods are times of uncertainty and vulnerability which we all experience over the course of our lives. Minnesota youth need to learn how to get ready for transitions between education and work. They need to learn how to make these transitions successfully. Furthermore, they need to understand why they may make a number of these transitions over the course of their worklife.

Americans have been told that of all the industrialized countries, the United States does the least to support its youth in transitions between education and work (America's Choice 1990, Forgotten Half 1988). Services available to Minnesotans tend to be piecemeal and disjointed at best. Programs, projects, and activities—often uncoordinated and not available to all—do not constitute a system. Minnesota must provide an education and employment transitions system—complete and whole. To lay the foundation to establish such a system inspired the creation of the Task Force on Education and Employment Transitions.

Schools Teach Little about Work

Learning opportunities provided in our schools generally are long on abstractions and short on applications of knowledge to work and life experiences. Indeed, the content of the subject matter and the way in which it is taught in our public schools would indicate that few Minnesota youth are destined to work, either for themselves or for someone else. On the whole, little is taught about work and working. Yet, a sizeable majority of high school students work at part-time jobs outside of school. Nonetheless, the learning experiences that youth gain in employment on their own are afforded little, if any, recognition and value by the schools.

Classes in vocational education and elsewhere in the school that focus specifically on work are targeted usually at those youth who are perceived as unlikely to enroll in a four-year college. Although the Educational Testing Service (1990, 4) estimates that Americans invest seven times more on the transitions of the four-year college bound than the non-college bound, overall we do a poor job of transitions for everyone. For the rest who constitute a sizable majority, we do even less. The reality is that the great majority of Minnesota high school graduates will not earn a bachelor's degree. In fact of the 47 percent of Minnesota's class of 1990 that enrolled in a four year college, 22 percent dropped out during their freshman year (Sedey 1991, 6; Minnesota's Forgotten Half 1992, 9). On the other hand, nearly all Minnesota youth will work the greater part of their adult lives. Accordingly, they need to be educated so that they can be productive in their work and can earn a decent living.

The system that, in earlier times, educated youth for work also provided them with bridges between education and work. That system is no longer in place and has not been for a long time. Earlier generations tended to walk literally in their parents' footsteps. Men, for example, often followed their fathers as factory workers, farmers, or merchants. Women, too, followed their mothers, most often as homemakers. While work opportunities for women as well as men have expanded over the course of this century, we have not developed ways to ensure that everyone knows how and is able to take advantage of the opportunities.

Clearly, we have a mismatch between the classroom learning experiences we offer our youth and the knowledge and skills they need to begin and advance in their lifework. It is ironic, however, that there are high school students who may think that the schools are teaching them what they need for rewarding work. It is only after several years of floundering in low skill, low wage jobs that these young adults come to realize that the school did not provide the education they needed to make a decent living.

Make the First Chance a Real Chance for All

The average age of students enrolled in Minnesota's technical colleges and community colleges is 28. These colleges are the places where these older students get a second chance to learn what they need to get and keep a good job. This second chance cycle wastes lives as well as financial resources. Minnesota must make sure that first chances meet the lifework needs of Minnesota youth.

Furthermore, we are beginning to recognize a similar lack of understanding about the workforce education needs of Minnesotans once they are no longer in school and are part of the workforce. To the disadvantage of all, we have focused largely on the continuing education of the executive and managerial echelons of the workforce, not taking into account the continuing education needs of all workers.

The fashion in which we have approached the current and future education of our workforce has left us with perplexing and challenging conditions. We are only beginning to grasp the consequences of this approach. The Commission on the Skills of the American Workforce suggests, however, that the signs have long been evident. In its 1990 report, *America's Choice: High Skills or Low Wages*, the commission points out that the economic competitiveness of the United States has been eroded seriously over the course of the last three decades. Two years earlier in 1988, the William T. Grant Foundation Commission on Work, Family and Citizenship told us the social fabric of America has been seriously damaged as a result of the social and economic inequities and deprivations sustained by large segments of the population, collectively described in the title of the report as *The Forgotten Half: Pathways to Success for America's Youth and Young Families*.

The Forgotten Half

Who are these disenfranchised young Americans whose condition was addressed by both commissions? They are the students who are quietly biding their time in classes that do not challenge them or relate to the world outside of school. Most of the forgotten half will graduate only to find that a high school diploma has little value in an employment market that requires strong technical skills or advanced education to obtain a decent job (Forgotten Half 1988, 2). Youth are left floundering in a low skill, low wage job market that often does not provide enough income to achieve self-sufficiency. Unemployment rates for workers ages 20 to 24 are higher than the overall workforce. This is especially true for young people

of color with unemployment rates ranging from 50 to 150 percent higher than their white peers (Forgotten Half 1988, 2).

According to the definition of the forgotten half developed by the William T. Grant Foundation Commission on Work, Family and Citizenship, the forgotten half in Minnesota are really the forgotten two-thirds. The young people are the approximately 10 percent, or 5,000, of students who fail to graduate from high school every year. They are the 63 percent, or the 31,500 of high school graduates who are not enrolled in a four-year college or university the year after they graduate (Sedey 1991, 4). In total, they are over 36,000 of the approximately 50,000 Minnesota high school students who leave school without a clear idea of where they are going, what they should do. Do these young Minnesotans have the skills they need to make their way? The Jobs Training Partnership Program found that two-thirds of Minnesota's economically disadvantaged population have high school diplomas or GEDS (Minnesota's Forgotten Half 1991, 14).

Even the young people who are working often do not earn enough money to make ends meet. For example, 58 percent of the Minnesota students who reported going to work after high school graduation were only working part-time jobs[3]. Forty-eight percent of these graduates were making an average hourly wage between $4.00 to $4.99 per hour with only 10 percent making over $7.00 per hour (Sedey, 1991, 10-11). The highest participation rate in any occupational category entered by Minnesota's high school graduates their first year out was retail trades with 38 percent working in this field (Sedey 1991, 12).

The increasing service-orientation of Minnesota's economy has eroded the earning capacity of many workers. For example, in 1989, the average manufacturing employee worked 40.5 hours per week and earned an average of $10.96 per hour. The average construction employee worked 38.9 hours per week and earned an average of $16.18 per hour. The average retail worker worked 26.7 hours per week and earned $6.84 per hour (1991 Economic Report to the Governor, Table 18). This translates into about $444 per week for manufacturing workers, $629 per week for construction workers, and $183 per week for retail workers. Retail occupations are the fastest growing and one of the lowest paying jobs. This is compounded by the fact that many retail jobs are part-time and often do not provide benefits such as health insurance and retirement. However, even if manufacturing jobs are compared with service jobs as a whole, the average manufacturing worker earns $559 per week and the average service worker earns $356 per week (1991 Economic Report to the Governor, Table 19).

[3] Follow-up 91 defined part-time employment as 29 or fewer hours per week and full-time employment as 30 or more hours per week.

In *America's Choice*, the Commission on the Skills of the American Workforce demonstrates that America's young people are not alone in their struggle to keep their heads above water. Since 1969 in the United States, real average weekly earnings have fallen by more than 12 percent across the board. However, this drop in earnings has been shared unequally. The incomes of the top 30 percent of wage earners increased while those of the other 70 percent fell. In many American families, it now takes two wage earners to make ends meet compared with one in the past (America's Choice 1990, 1).

Productivity and Global Competition

The Commission on the Skills of the American Workforce tells us that we must significantly improve our economic productivity to be competitive in the global marketplace. To improve our productivity, we must improve the way we educate everyone for work. Education for work must be purposeful and direct for our youth and adults to gain the knowledge, skills, and attitudes required to be productive members of high performance work teams. Otherwise, the commission suggests that American society will not regain and keep a competitive edge in the global economy.

According to the commission, productivity is the key to continued growth in the American standard of living. However, during the past 20 years, American productivity growth slowed to a crawl. It now takes nearly three years to achieve the same productivity growth we used to achieve in one year. If productivity continues to falter, two likely futures await. Either the top 30 percent of our population will grow wealthier while the bottom 70 percent becomes progressively poorer, or everyone can slide into poverty together (America's Choice, 1990, 1).

What do Minnesota Businesses Want?

The Minnesota Department of Trade and Economic Development surveyed over 2,300 Minnesota companies in the following five categories: (a) small/high growth, (b) Greater Minnesota, (c) exporters, (d) high technology, and (e) large. These companies were asked about government's role in the 1990s. Several of the questions related directly to education and employment transitions. From 34 to 48 percent of the firms cited technical and skilled occupations as important to their operations. In addition, from 53 to 71 percent of the firms in the five groups reported difficulty in recruiting skilled and technical workers (The Challenge to Change 1990, 7). On top of this, from 74 to 86 percent saw an increasing need for technical and skilled workers (The Challenge to Change 1990, 11). Finally, from 56 to 66 percent of the firms supported increased spending for elementary and secondary education and from 51 to 60 percent supported increased fund-

ing for higher education. These firms recognize the growing need for technical and skilled workers as well as learning experiences to help educate these workers.

America's Choice and Minnesota's Department of Trade and Economic Development tells us the signals are clear. Minnesota needs to develop a *comprehensive system* for workforce education and Minnesota businesses need to become high performance organizations. Minnesota workers must be able to produce and sell quality products and services that satisfy customer needs in a global marketplace. More and more, success is hard won in the global marketplace, increasingly competitive and technology intensive, with benchmarks for quality often set by high performance organizations half way around the world

This need for workers with world class skills requires world class schools that are continuously improving the learning experiences they provide. The newly-acquired knowledge and skills will not be put to good use, however, unless business makes it clear that workers are expected and empowered to take responsibility for constructive change and continuous improvement in their work.

We must hold our schools, colleges, and universities accountable for preparing Minnesotans for work as well as for citizenship. Furthermore, we must hold them accountable for doing so in a balanced and thoughtful fashion that gives value and dignity to work itself, as well as to the education required to perform it well. Our democratic system would be in dire straits if we gave as little heed to education for citizenship as we do to education for work.

Working and Learning All Our Lives

We also have missed the target in addressing the continuing education of our youth once they leave school. While Minnesotans, and Americans as a whole, are accomplished at the rhetoric of life-long learning, we have not embraced it systemically. According to *America's Choice* (1990, 49-40), the great majority of those entering the workforce receive no further education once they are in the workforce. It appears that we understand neither the rewards of pursuing life-long learning nor the penalties for ignoring it. No area of our lives is without new knowledge and skills to be learned and used, whether it is home, work, or leisure.

At the same time, all Minnesotans—young and old—are affected by continuous technological advancements that permeate our daily lives on all dimensions at home, work, and leisure. While the intensity and degree of technological change varies over time and from one area to another, it shapes and directs every aspect of our lives and especially our capacity to remain effective and productive workers (*Technology Competence* 1992, 1-6).

The understanding of mathematics and science is not enough to provide the knowledge and skills required to be technologically literate and competent. Wide and extensive experiences in actually "doing" technology, solving problems, and feeling comfortable with the "know-how" are essential to the education and life of all children, youth, and adults in the 21st century.

Even with the increasing emphasis on technology, science, and mathematics, youth still must have well developed basic skills in such areas as reading, writing, and speaking. In addition to learning these academic skills in the classroom, Minnesota youth need to learn how to use them effectively in a variety of work settings.

Workplace Dynamics in a Changing Culture

Workplace cultures are steadily changing. The workplace has come to require knowledge and skills that only a few years ago would not have been seen as essential to be an effective worker. Getting along with others and being able to work together, often with individuals of diverse heritages and lifestyles, are fast moving to the top of the list of essential skills.

More and more Minnesotans are now expected to be members of high performance work teams and to use new processes for collaborative—rather than competitive—planning, production, service, evaluation, and decision-making. Moreover, they also are expected to engage in practices that ensure the continuous improvement of their goods and services, ever mindful of meeting or exceeding customer expectations.

Just as the private economic sector is developing processes for continuous improvement, so must our schools and colleges. Workforce preparation means more than simply being taught about continuous improvement, it means living it. Thus, our schools and colleges must engage in continuous improvement in the classroom as well as elsewhere for the concept to have meaning, not only to the future of the learner but also to the future of the institution.

Relationships are being altered also by the restructuring of the workplace. At the same time increasing numbers of Minnesotans are expected to learn and use new ways of doing business and getting the job done. This restructuring may mean that workers are reassigned and deployed to work in new and evolving organizational structures. These settings often are not familiar and may quickly change again.

Continuous learning has clearly established itself, along with producing products and providing services, as a basic expectation of high performance work teams. Learning takes on a new measure of importance for workers and the firms for which they work. Workers need to learn new skills to identify areas for improvement and the processes to attain the desired improvement, including appropriate learning activities. Employers need to provide

learning opportunities and a supportive work environment, built on mutual trust. Indeed, the availability of quality educational programs to advance the Minnesota workforce are the responsibility of business and labor as well as education. But none can do it alone. Rather, there is a real need for sustained, collaborative efforts to redefine roles, objectives, and strategies to move forward together.

Long-term Commitment and Systemic Change

The recommendations we present in this report are foundational to building a comprehensive system of processes and structures to demystify for all the ways that individuals may reach their potential as workers and citizens. These structures and processes must be the target of continuous improvement, revised and modified to reach and sustain the shared vision that all Minnesotans will have successful education and employment transitions.

We cannot emphasize too strongly that our recommendations require a long-term view and systematic change. Without a commitment to the long-term and with no intent to bring about a systemic purpose, design, and behavior, this shared vision will not be realized. While we are not as steeped in systems thinking as we would like, we have reason to believe that it offers us a means to get out of the cycle of solving the same problems over and over again. With fits and starts, all too often we have been piecemeal in our remedies at workforce education, giving ourselves opportunities to try again. During the course of our work over the last year and a half, we, as a task force, became particularly mindful of Peter M. Senge's observations in *The Fifth Discipline* (1990):

> The long term, most insidious consequence of applying nonsystemic solutions is increased need for more and more of the solution. This is why ill-conceived government interventions are not just ineffective, they are "addictive" in the sense of fostering increased dependency and lessened abilities of local people to solve their own problems.

We understand that systems thinking presents a major challenge. It condemns the "quick fix," requiring us "to work the plan," to not seek comfort, as Senge suggests, in "separate gimmicks or the latest organization change fads."

Over the course of our work together as task force members, we have come to realize that fundamental changes are required in how we educate and organize Minnesota for work. In the next few paragraphs, we spell out

the needs that must be met and the changes that must occur relative to workforce preparation. If the response to any of these suggestions is that "Minnesota already does that," we suggest a second look. For the most part, we do not find that these needs are being meet in Minnesota, certainly not in a comprehensive and systemic fashion.

What Needs To Be Done

We see the key to success as providing the learning experiences to acquire and use the knowledge, skills, and attitudes that empower individuals to think and act, to know and to do, to plan their lives and live them as productive workers and citizens. This means that we start by teaching youth that they will spend a significant portion of their lives working.

Youth as well as some adults need experiences that provide them with an understanding of what work is like and how one kind of work is different from another. They need to learn about the variety of jobs and what different jobs require in order to be obtained, kept, and performed successfully. They need to learn that it is highly unlikely that the first transition they make between education and work will be the last.

Individuals of all ages and backgrounds, from the full range of Minnesota's cultural and racial diversity, need to learn and use the knowledge and skills required to plan and manage their lives and to succeed at work. They need opportunities to obtain help to evaluate the directions they wish their lives to follow. Furthermore, they need opportunities to obtain additional help setting forth a plan to realize their wishes. Accurate and timely information about job opportunities, working conditions, and compensation must be available to individuals if their plans are to be meaningful.

At work, both youth and adults alike need help in staying up to date with both the knowledge and skills required to be effective and productive workers. They also may need to change jobs. In turn, they need opportunities to re-enter the education and employment transitions system to achieve their purpose. Whether it is the initial or a subsequent entry into the system, both youth and adults need to be given credit for what they know and can do relative to learner outcomes—regardless of who they learned it from or where it was learned.

Minnesota Cannot Have Too Many Winners!

We believe that our recommendations provide a solid base for developing structures and processes to ensure that all Minnesotans will have successful education and employment transitions. In all aspects of our lives and work, Minnesota cannot have too many winners! Success, however, is

dependent upon the quality of the on-going learning experiences we offer our children, youth, and adults.

We believe that our collective future as a society corresponds to the quality of opportunities we provide for each member of our society. Thus, it is imperative that our social, political, and economic systems be healthy and strong, that we recognize each individual as having a role to play both as a worker and as a citizen, and furthermore, that we are purposeful in educating each individual accordingly.

CHAPTER TWO

CHARACTERISTICS AND ATTRIBUTES OF MINNESOTA'S SYSTEM FOR EDUCATION AND EMPLOYMENT TRANSITIONS

It is the vision of the Legislature that Minnesota will have a system that assists individuals to make successful education and employment transitions. By "education and employment transitions," the Legislature means

> those processes and structures that provide an individual with awareness of employment opportunities, demonstrate the relationship between education and employment and the applicability of education to employment, identify an individual's employment interests, and assists the individual to make transitions between education and employment. (Minnesota. Laws of Minnesota. 1991. Chap. 265, art. 8, sec. 16, subd. 1.)

The task force developed a statement on the characteristics and attributes it considered essential to a successful education and employment transitions system. These characteristics and attributes prescribe the expectations, outcomes, behaviors, and boundaries of the system and, in turn, provide the foundation upon which the plan is built. These statements were developed over a period of several months and reflect both the broad diversity of interests represented on the task force and the commitment to lay the groundwork for systemic change which all agreed is imperative.

ASSUMPTIONS

Seven statements express assumptions of the task force which support the characteristics and attributes which in turn set the parameters for the statewide plan.

1. All individuals can learn and become participating and contributing members of society.

2. All individuals need to develop and continually improve their knowledge, skills, and personal qualities to meet their employment and life goals.
3. The system for education and employment transitions is responsible for meeting individual needs. The individual is responsible for taking advantage of the opportunities provided by the system.
4. The public, private, and independent sectors–including parents, students, employers, educators, and other service providers–will work together to anticipate and address current, emerging, and future educational, workforce, economic, cultural, and demographic needs.
5. All will work together in a constructive and ethical manner.
6. Individuals of all ages can benefit from assistance in making education and employment transitions.
7. There is a growing awareness of the value of collaboration as opposed to competition in how individuals and organizations relate to one another.

CHARACTERISTICS AND ATTRIBUTES

The task force developed eight statements regarding the characteristics and attributes it considered necessary for Minnesota to have a successful system for education and employment transitions. These characteristics and attributes lay out the expectations, outcomes, and boundaries of the system.

A successful system for education and employment transitions:

1. Prepares individuals to be participating and contributing members of society. Therefore, the system:
   a. Explains that one of the primary ways a person contributes and participates in society is through work.
   b. Helps people learn the knowledge, skills, and attitudes to be productive workers.
2. Recognizes that all transitions are periods of uncertainty and vulnerability. Therefore, the system:
   a. Accepts responsibility for meeting the education and employment transitions needs of individuals.
   b. Prepares individuals for education and employment transitions.
   c. Helps individuals make education and employment transitions.

d. Enables individuals during education and employment transitions.

3. Describes its processes and clearly communicates expectations and outcomes for all stakeholders. Therefore, the system:

   a. Describes service providers and other stakeholder groups.

   b. Describes and communicates the integration of all components that serve workforce education needs.

   c. Describes and communicates the processes and services of each system component.

   d. Describes and communicates information about the requirements and points for entry and exit.

   e. Provides current and relevant information on an on-going basis.

   f. Provides counseling that helps individuals to identify and develop employment goals and acquire the knowledge, skills, and attitudes to achieve those goals.

4. Is readily accessible by each stakeholder. Therefore, the system:

   a. Is visible and accessible to all persons regardless of race, creed, gender, socioeconomic status, ability or disability, language, culture, sexual orientation, marital status, age, and location.

   b. Integrates existing health and human services, education, and work systems.

   c. Provides entry and exit points that are multiple, visible, and user-friendly.

   d. Uses processes that promote effective and efficient communication and collaboration.

   e. Has the financial and human resources to be effective and efficient.

5. Focuses on learning and learner outcomes rather than educational processes and structures. Therefore, the system:

   a. Establishes outcomes through a collaborative process involving all stakeholders.

   b. Identifies and communicates clearly what learners need to know and be able to do.

   c. Provides learning opportunities that are flexible and responsive to individual and societal needs and interests.

   d. Accommodates different learning styles and learning rates.

e. Fosters habits and attitudes that facilitate learning throughout life.

f. Builds upon what the learner already knows and can do.

g. Validates learning regardless of where it occurs.

h. Assesses learning against established performance standards developed through broad and continuing stakeholder involvement.

i. Uses a variety of methodologies and instruments to assess and document learner knowledge, skills, and attitudes.

j. Provides learners with clear criteria so they can assess their own progress.

6. Builds learning experiences on the premise that learning is accelerated and retention, comprehension, and use are enhanced when related to life and work. Therefore, the system:

   a. Embeds career awareness and work values into the curriculum beginning in kindergarten.

   b. Recognizes the importance of and encourages the active participation of parents, guardians, and other extended family members.

   c. Integrates work-based and vocational experiences into the learning of each individual.

   d. Helps students learn about community needs through experiences in community service.

   e. Organizes teaching and learning around relevant life experiences that are almost always interdisciplinary.

   f. Provides for a progression of experiential learning activities in family, work, school, and community.

7. Establishes credentialing processes and structures. Therefore, the system:

   a. Uses standards and credentials that meet or exceed national and international standards.

   b. Recognizes that some existing standards meet or exceed national and international standards and were established through broad and continuing involvement of stakeholders.

   c. Involves stakeholders in establishing and continuously updating performance standards.

d. Has stakeholders that use established and recognized credentials as the basis for employment.

8. Addresses current and anticipates new and emerging workforce needs to enhance economic growth and the creation of personally fulfilling work. Therefore, the system:

   a. Promotes collaboration among all stakeholders to identify existing and future knowledge, skills, and attitudes required by the workforce to meet societal needs and goals.

   b. Identifies new and emerging technologies and delivers educational programs for the on-going preparation of the workforce.

   c. Forecasts and communicates existing and projected workforce supply and demand.

   d. Assists employers in meeting their ongoing need to upgrade employee skills.

   e. Assists individuals in finding employment or building their own entrepreneurial enterprises.

CHAPTER THREE

RECOMMENDATIONS

The Task Force on Education and Employment Transitions offers seven recommendations. The task force sees these recommendations as the foundation for a *systemic* approach to education and employment transitions for Minnesotans of all ages and heritages. The first recommendation is the footing of the system's foundation, the second is the cap, and the other five—together with the statements of the system's characteristics and attributes—support, reinforce, and define the first two.

The focus of the recommendations is on systems rather than agencies and programs. Implementing these recommendations as programs, projects, and activities would undermine their intent and design. The intent and design of the recommendations, building on the characteristics and attributes, is to create a comprehensive coordinated system—which includes education, business, and labor and other interests—that routinely uses collaborative processes to develop and provide workforce education. The full and continuing participation of public and private sector stakeholders is essential.

These recommendations are designed to develop a system that makes the transitions between education and employment understandable and accessible to all. For learners and workers of all ages, the system must aid (a) in developing plans and strategies to achieve education and employment goals, and (b) in matching these individual goals with the needs of high performance work organizations in a global economy. Overall, these recommendations aim to create solid first chances that lead to fulfilling, productive lifework for all Minnesotans.

The model for a lifework development system is the base of the foundation for the education and employment transitions system. The lifework development system is the focus of the first recommendation and reflects the fact that there is a body of knowledge about the nature and variety of work that each individual needs to learn. This includes the fact that most people work the greater part of their adults lives and that there is a direct relationship between what one learns and the work one is able to perform. The lifework development system is to inform, guide, and nurture the in-

dividual in learning and planning from an early age and, when appropriate, aid the individual in moving through one's lifework.

The second recommendation builds on the first and presents a model for work-based learning for all Minnesota youth. The recommendation does not propose a program for the few. Rather, the second recommendation proposes a model for integrating work-based learning as part of the formal outcome-based education of *all* Minnesota youth. The work-based learning model also provides for meeting the work-based learning needs of adults. For all students, work-based learning would provide the basic knowledge, skills, and attitudes required to be effective workers in a variety of workplace settings. Also, for students who select it, work-based learning would provide the knowledge, skills, and attitudes required to be effective workers in specific occupations.

The third recommendation defines the relationships among the systems for lifework development, work-based learning, and outcome-based education. The fourth recommendation recognizes and builds on the importance of the learner's family and other elements of the learner's social network in ensuring success in education and work. The fifth recommendation calls for providing all education providers with the professional development opportunities necessary to establish and maintain Minnesota's education and employment transitions system. The sixth recommendation outlines the processes for the collaborative planning and delivery of education, health, and human services. The seventh recommendation outlines the processes for the collaborative development and implementation of world class performance standards for Minnesota's education and employment transitions system.

The Task Force on Education and Employment Transitions recommends that:

Recommendation One: Lifework Development System. Minnesota create a comprehensive lifework[4] development system.

The lifework development system will:

a. Inform all learners at an early age that they will work throughout their lives.

b. Inform learners about the nature of work.

c. Deliver timely and accurate information about current and future work in local, national, and global marketplaces characterized by rapid change.

[4] The task force uses "lifework" to refer to one's work over a lifetime and how that work is accomplished and enhanced (a) through planned and evaluated learning experiences and (b) in relationship to the other roles, in addition to being a worker, that one plays as a member of a family and community.

d. Facilitate continuous lifework planning for each learner.

e. Assist each learner in the selection of formal and informal learning experiences for lifework preparation.

f. Provide learners with assistance and direction in seeking, obtaining, and advancing in their lifework.

g. Define the role of and include learners, families, social networks, educators, employers, and other community interests in lifework development.

h. Be accessible to learners, dislocated workers, currently employed workers, and those making lifework changes.

i. Collect and provide information on the actual transitions from education to employment and from education to further education.

j. Provide learners with specific occupational information through direct access to workers in a variety of occupations.

k. Reflect the dynamic nature of changing employment forecasts and emerging occupations.

l. Develop new processes for the preparation and deployment of individuals whose primary role is lifework planning and development.

Recommendation Two: Work-based Learning. Under state policy directive, education, business, and labor collaboratively be responsible for integrating work-based learning into lifework preparation for all learners.

Work-based learning:

a. May be obtained through a variety of experiences, e.g., on-the-job training, youth and adult apprenticeships, cooperative work experience, work-study, after-school and summer jobs, and internships.

b. Has two basic purposes: (1) for all students, work-based learning would provide the basic knowledge, skills, and attitudes required to be effective workers in a variety of workplace settings, and (2) for students who select it, work-based learning would provide the knowledge, skills, and attitudes required to be effective workers in specific occupations.

c. Will be planned and evaluated.

d. Will be required for high school graduation.

e. Will be provided for learners of all ages.

f. Will employ and integrate collaborative processes to define the roles and responsibilities of learners, workers, employers, and educators.

g. Will be carried out under an agreement among the learner, the educator, the worker, and the employer..

h. Will provide the learner with a formal record of validated knowledge and skills.

i. Will be based on the current and future needs of the learner, employer, and workforce.

j. Will have clearly established learner outcomes aligned with work-based experiences.

k. Will equip both young and adult learners to decide which education and employment options to pursue next in their lifework development.

l. Will equip the learner with the knowledge, skills, and attitudes that are required to be effective on-the-job.

m. Will build the learner's self-esteem, discipline, and motivation.

Generalized work-based learning will:

a. Inform learners at an early age that they will work throughout their lives.

b. Equip learners with the knowledge, skills, and attitudes that are required to be effective on-the-job.

c. Provide a setting to gain understanding of the wide range, changing nature, and growing importance of the "know-how" that is integral to work.

d. Be driven by learner outcomes.

e. Investigate a variety of occupations and workplaces.

Occupation-specific work-based learning will:

a. Develop the knowledge, skills, and attitudes for specific occupations.

b Vary in scope and duration according to learner goals, occupational areas, and available opportunities.

c. Provide protection for current workers, employers, and learners.

d. Use a collaborative process to develop learner outcomes, curricula, instructional methodology, and assessment.

e. Be driven by learner outcomes.

f. Use a collaborative process to develop feedback systems for learners, employers, educators, and other stakeholders.

g. Provide monetary compensation for the learner.

In order to develop a system of work-based learning:

a. The Legislature will provide incentives to public and private employers and educators, regardless of the size of the enterprise, to increase offerings of work-based learning for learners of all ages including current workers, workers in transition, and high school learners

Recommendation Three: Learner Outcomes. Each learning center[5] develop clearly defined and understood learning outcomes through a collaborative process involving stakeholders.

The learner outcomes will:

a. Be applicable to work and other aspects of life.

b. Be taught through processes in which the curricula, instruction, and assessment are aligned, complementary, and compatible.

c. Be achieved though learning experiences tailored to an individual's learning rate, needs, and style.

d. Be validated regardless of where the learning occurs.

e. Be continuously updated and improved to reflect the dynamic nature of societal and work requirements.

Recommendation Four: Learner Support. Each learning center establish and maintain processes which invite, engage, and use learners, families, social networks, employers, and other community interests to ensure success for every learner.

Each learning center will:

a. Create processes to achieve these objectives regardless of its particular mission or the age of the learner served (e.g., the 55 year old displaced worker looking for work as well as the two year old in child care).

[5] A learning center is any place where planned and evaluated learning activities take place. This can be an elementary school, a workplace, a college, a community center as well as a variety of other locations.

b. Define roles and expectations for itself and each of the other groups in ensuring success for every learner.

c. Improve the processes of invitation, engagement, and use by continuously measuring their effectiveness and making appropriate refinements and other adjustments.

Recommendation Five: Professional Development. Minnesota establish a system to encourage, provide, and reward lifelong learning and continuous improvement of all education providers.

The professional development system will:

a. Prepare and require educators to integrate lifework planning and development into student learning activities.

b. Define clear performance expectations for all education providers based on world-class standards.

c. Require all education providers to develop, implement, and continuously improve their own personal learning plans to enhance their professional knowledge, skills, and attitudes.

d. Provide incentives that encourage all educators to rise to peak levels of performance.

e. Provide periodic, multiple assessments of the competencies of education providers.

f. Require periodic curriculum-related, work-based experiences that enable educators to integrate workplace expectations into their classroom instruction.

g. Continuously improve and upgrade the entrance requirements and graduation standards for educator preparation programs.

h. Provide the resources and learning opportunities so that education providers can meet the standards.

i. Provide educator preparation programs that are outcome-based and prepare educators to facilitate learning in an outcome-based education system.

Recommendation Six: Coordination. Under state policy directive, educators, health and human services providers, and employers will collaborate with learners and their families to provide them with coordinated services for education and employment transitions.

To achieve this, collaboratively they will:

a. Design processes and structures to be responsive to individuals who face barriers to education and employment opportunities.

b. Create printed and electronic directories of employment and educational programs and support services and make them available to all stakeholders.

c. Improve continuously service coordination and eliminate unnecessary duplication.

d. Develop an electronic network to coordinate referrals about education, employment, and health and human services.

e. Deliver health and human services to learners in educational settings freeing educators and learners to focus on learning.

In order to achieve this coordination:

a. The Legislature will provide incentives to improve coordination and reduce unnecessary duplication.

Recommendation Seven: Standards. Under state policy directives, education, business, and labor collaboratively will establish world class performance standards for the education and employment transitions system.

The standards will:

a. Be based on world class benchmarks for education and employment and will be identified through collaborative efforts.

b. Be reflected in universally recognized credentials for attained and validated competencies.

c. Be reviewed and upgraded continuously to remain world class.

CHAPTER FOUR
EDUCATION AND EMPLOYMENT TRANSITIONS IN MINNESOTA

Cheryl Boche, Park Senior High School, South Washington County School District

James M. Brown, University of Minnesota

Nicholas L. Waldoch, Minnesota Department of Education

The following is a collection of Minnesota programs that enhance education and employment transitions. They were selected to illustrate the range and kind of programs currently offered, but are not intended to constitute an exhaustive list.

Government Programs

The following section describes a sampling of programs funded by the U.S. government and the State of Minnesota.

Federal Programs

The majority of federal programs dealing with education and employment transitions fall under the jurisdiction of the Department of Education and Department of Labor and are authorized by two federal laws:

a. Job Training Partnership Act (JTPA): The major program directing federal employment and training, JTPA focuses upon preparing disadvantaged individuals for employment. Typical services include career counseling, skills assessment, vocational instruction, remedial education, on-the-job training, and work experience. Two JTPA programs with the most relevance for education and employment transitions are:

1. Summer Youth Employment and Training Program: This work experience provides summer supervised jobs and training each year for low-income youths (age 14 to 21). Minnesota received $7.8 million to serve 8,670 youth across the state in FY 1992. A supplemental state appropriation for year-round work provides an additional $2.6 million for a year-round work experience for 4,500 youth; and

2. Eight Percent Education Coordination Grants: Fully funded with a $1.5 million federal appropriation, the grant program provides technical college training to low-income people. In FY 1992, 1,670 people statewide participated.

b. Carl D. Perkins Vocational and Applied Technology Education Act of 1990 (Perkins Act): The Perkins Act governs the vast majority of federal vocational education policy. It covers a wide range of topics, but gives special attention to the following:

1. Special populations: The act places a priority on serving the needs of five groups: (a) individuals with disabilities, (b) individuals who are economically disadvantaged, (c) individuals with limited English proficiency, (d) individuals who participate in programs designed to eliminate gender bias, and (e) individuals in correctional institutions.

2. Integration programs: Integration of vocational and academic education programs is designed to assure collaborative efforts among educators in all subject areas in order to help students develop both their academic and occupation-specific skills.

3. Tech Prep: As a combined secondary and postsecondary program, tech prep is an effort to train technically skilled workers. These programs typically consist of four years of study (two years of high school and two years of postsecondary education) that lead to an associate degree or two-year certificate in fields such as engineering technology; applied science; mechanical, industrial, or practical arts; agriculture; health; or business. Special emphasis is placed on the development of competencies in mathematics, science, and communications. Tech prep provides an important new transitional linkage between secondary and postsecondary education programs.

c. Job Corps: A job training and education program providing training and job placement to 16 to 21 year-olds. Students live at a Job Corps center and receive a stipend if they stay at least six months.

State Programs

The programs specific to Minnesota are cut across and are operated by a variety of agencies.

a. Minnesota Conservation Corps: Administered by the Department ofNatural Resources, this program provides year-round work and training in state park improvement and environmental management projects for over 180 young people between the ages of 15 and 26. It is funded by an annual state appropriation of $996,000.

b. Minnesota Youth Program: A supplement to the federal JTPA program that offers part and full-time jobs and vocational counseling and education for disadvantaged youths between the ages of 14 and 21. The program is funded with an annual state appropriation of $2.6 million.

c. Youth Wage Subsidy Program: A statewide program for unemployed and at-risk youth from ages 14 to 21. Public and private sector employers receive a wage subsidy for each participant they employ. In FY 1992, 230 youth were served with a state appropriation of $250,000.

d. Youth Employment and Housing Program: Targeted toward youth at risk of dropping out of school with a $100,000 annual state appropriation. This program served 150 youth at three sites (Minneapolis, Bemidji, and Chaska) in FY 1992.

e. Voluntary Apprenticeship: Apprenticeship is a system of skilled occupational training that combines practical work experience with related technical instruction. The Division of Voluntary Apprenticeship within the Minnesota Department of Labor and Industry is charged by state and federal law to register apprenticeship programs training to any individual 16 years of age or older to certify the apprentice upon completion of the approved training. The certification of completion is portable, and the recipient is acknowledged as a competent, fully trained tradesperson or journeyworker.

Juvenile Corrections Education

Juvenile corrections facilities in Minnesota are operated by a single county or by multi-county consortia. Some facilities provide meaningful education and work opportunities for incarcerated youth. The most successful programs include:

a. Thistledew Camp: Houses about 48 youth, ages 13 to 17. They participate in a three-month program aimed at building self-confidence and group cohesion. Participants are taught basic academic skills in an effort to facilitate their transition into public school. Industrial arts programs are also offered in home maintenance and small engine repair.

b. Red Wing: A program based on peer group interaction for about 92 juveniles. A strong education program allows youth to earn high school credits and emphasizes special education and basic skills.

Education

The following is a sampling of the various education and employment transitions programs in public and private learning centers in Minnesota.

Postsecondary Education Programs

Most successful postsecondary education programs include a practical work experience component that emphasizes the application of knowledge, skills and abilities. These programs are most successful when business advisory committees are included in program design, performance standards development, implementation, and evaluation.

a. University of Minnesota, Institute of Technology, Project Technology Power: Funded by private contributions, it provides introductory and supportive programming targeted toward African-American, American Indian, and Latino youth in grades eight to 11 to enhance interest in science and technology careers.

b. University of Minnesota College of Education: All students must successfully participate in a student teaching experience before they can be licensed to teach.

c. Technical colleges: Technical colleges emphasize applied learning as part of all their programs. Both in-school curricula and internships provide experiential learning opportunities to enhance traditional classroom experiences.

d. Proprietary schools: There are a variety of privately owned vocational and technical schools in Minnesota. Most of the curriculum is focused upon short-term, occupation-specific training and may include internships in the workplace.

Secondary Education Programs

The following is a sampling of education and employment transitions efforts in Minnesota's public and private high schools. These programs generally aim to relate classroom learning to the world outside of school.

a. Outcome Based Education: Outcome Based Education (OBE) (M.S. 126.661) is defined as a pupil-centered, results-oriented system premised on the belief that all individuals can learn. In this system: (a) what a pupil is to learn is clearly identified, (b) each pupils progress is based on the pupils demonstrated achievement, (c) each pupil's needs are accommodated through multiple instructional strategies and assessment tools, and (d) each pupil is provided time and assistance to realize her or his potential. The move to OBE is likely to enhance students' transitions from education to employment. OBE will be a catalyst for students to develop performance-based skills in school as well as work-based settings. It is anticipated that OBE will be fully implemented by 1996.

b. Vocational programs: Successful vocational programs integrate life and work experiences into the educational curriculum. The best programs demonstrate a relationship between education and employment, provide meaningful career counseling, and assist in the transition between education and employment.

1. Cooperative education: Cooperative education programs couple classroom learning with workplace experience for eleventh- and twelfth-grade students. Schools and firms develop cooperative training and evaluation plans to guide and measure the success of each student.

2. Work experience programs: High schools provide supervised cooperative work programs designed specifically for students with special learning needs. Work Experience/Career Exploration Programs are offered for qualifying economically or academically disadvantaged ninth-graders or those with disabilities. Disadvantaged tenth-, eleventh- and/or twelfth-grade students and students with disabilities can also participate in supervised employment in nonprofit organizations.

3. Youth apprenticeship: Youth apprenticeship programs combine broad educational and paid work experiences in a variety of occupations for students in their eleventh to fourteenth years of education. Firms and schools design, implement, and evaluate the educational progress of each apprentice. Ideally, the program will result in a high school diploma and an approved certificate of mastery in an occupational field.

c. General secondary education: General education is not intended to prepare students for future employment opportunities. It provides a core foundation of general skills in mathematics, reading, social studies, and communications.

1. Career planning and development: Career information systems are available in most schools and provide media information, career testing, evaluation, and networking with firms.

2. Alternative schools: Alternative schools are designed to accommodate students who have not demonstrated success in traditional high school settings. Programs are tailored to specific needs and vary in location, teaching methodology, and nature of support services. Area learning centers are one form of alternative schools.

3. Dunwoody Institute's Youth Career Awareness Program Summer Experience: Dunwoody is a private technical college in Minneapolis. It operates a six-week summer program for economically disadvantaged students and students of color who have completed ninth grade and want to explore technical careers. Students observe technical demonstrations, visit corporations and industries, and participate in a range of activities to assess their skills and abilities and build their self-esteem.

4. Business partnerships: Effective partnerships between businesses and schools are voluntary, cooperative agreements. While partnerships vary in scope, commitment, and complexity, effective ones place heavy emphasis

on collaborative planning, design, implementation, and evaluation. Businesses and schools may share technology, management, financial assistance, classroom space, and instructors/tutors. For example: (a) Unisys Corporation has a six-year partnership with Como Park High School focusing on mathematics and science that is governed by a coordinating committee of faculty and Unisys employees; (b) Honeywell and North High School in Minneapolis have developed curriculum and workplace programs collaboratively for 11 years; and (c) the Instant Web Companies is part of a partnership with the Carver-Scott Educational Center and Chaska Public Schools to develop an effective education and employment program, which includes placing teachers and students in the workplace.

5. Postsecondary Enrollment Options (PSEO): This program allows high school juniors and seniors to take courses for high school credit at a postsecondary institution, including technical colleges. The credits a student earns may then be applied toward a postsecondary degree. Individuals 21 years of age and over may also complete high school requirements by enrolling in a PSEO program.

Nonprofit Organizations

The vast array of nonprofit organizations makes it difficult to create a uniform structure. However, most nonprofit organizations providing training and employment programs generally focus on economically disadvantaged people and communities. Funding comes from a variety of sources, including federal and state contracts and private contributions and endowments. Their organizational flexibility enables many nonprofits to respond quickly and creatively to emerging needs in their communities.

a. Opportunities Industrialization Centers: Opportunities industrialization centers (OIC) are community-based programs offering education, skills training, placement, and support services to economically disadvantaged and unemployed individuals. OICs specialize in serving hard-to-reach groups, particularly people of color and those receiving public assistance. In cooperation with state and local JTPA agencies, these centers also offer special programs for youths, older workers, and male and female offenders at Stillwater prison and the Volunteers of America correctional facility at Roseville. OICs are located in Minneapolis and Ramsey County. In addition, Minnesota is unique in its wealth of OICS serving Native American people on reservations in Mille Lacs (the first OIC in the nation to be located on a reservation), and Fond du Lac. In addition, the Bemidji Indian OIC serve the reservations in the area.

b. Minneapolis Youth Trust: The Minneapolis Youth Trust is an employer-based and funded program with the City of Minneapolis that acts as a broker to match employers with students and schools. Employers recruit employee volunteers to work as mentors and tutors to students in the public schools.

c. Catholic Charities: Catholic Charities administers some public assistance funding for GED programs, housing, and child care. It also operates the Women's Employment and Resource Center that offers a seven-week pre-employment skills workshop providing career assessment, job referral and follow up, counseling and mentoring, and subsidies for transportation and child care for eligible recipients.

d. Jewish Vocational Service: The Jewish Vocational Service is a division of Jewish Family and Children's Service that offers career and educational counseling, employment assistance service, vocational rehabilitation services, and employee referral and training services.

Many nonprofit programs throughout Minnesota use work-based training. Many are effective for targeted populations and are supported by a variety of agencies, companies, and organizations throughout the state. However, there is no current centralized system to coordinate and track the outcomes or effectiveness of these programs.

Conclusion

The range and variety of programs that address education and employment transitions in Minnesota could be a foundation on which to build a comprehensive system. However, until these programs, and others like them are integrated, the needs of the vast majority of non-college bound youth will continue to go unaddressed.

CHAPTER FIVE
NATIONAL EFFORTS FOR EDUCATION AND EMPLOYMENT TRANSITIONS

Ann C. Grindland, Minnesota Higher Education Coordinating Board

Alicia R. Phillips, Minnesota Department of Labor and Industry

National studies increasingly sound the alarm that American firms and workers are ill-equipped to compete in a global economy. While business, labor, civic, and educational leaders often point to the need for a qualified workforce and high-performance workplaces, these studies highlight the growing incongruity between the current skill levels of American workers and skills employers demand for high-skill workers.

The workforce for the next century must be able to adjust to technological and economic change. While an elaborate system of higher education and transition programs exists for students preparing for college, no such postsecondary system is in place for those students who do not pursue studies at a four-year postsecondary institution—the so-called "forgotten half." Generally, students with no particular career or academic goals are left to manage their own future, often unsuccessfully.

Even though students are told what skills and classes they must have to prepare for college, they are not told the skills and attitudes they need to enter the workforce—the ability to communicate, compute, solve problems, set priorities, or work as part of a team. Thus, students often lack not only the basic academic skills, but also the attitudes and behaviors that employers expect of them. The following is a sampling of national studies that discuss the issues surrounding and changes needed to create a system of education and employment transitions.

National Studies

The following is a sampling of several prominent national reports on education and employment transitions.

America's Choice: High Skills or Low Wages!

Currently, 50 percent of America's high school students are not focused on career or academic goals after graduation. These students face a post-graduation labor market with declining wages for those with only a high school degree. *America's Choice* argues for "a new educational performance standard . . . for all students to be met by age 16." (*America's Choice* 1990, 5). Whether in alternative learning environments or traditional school settings, all students should have the technical skills necessary for success in a technology-oriented, high-performance workplace. "The states should take responsibility for assuring that virtually all students achieve [benchmark standards] . . . [and] states, with federal assistance, should create and fund alternative learning environments for those who cannot [meet such standards] in regular schools" (*America's Choice* 1990, 6).

The report also argues for "a comprehensive system of Technical and Professional Certificates and . . . associate degrees . . . for the majority of students and adult workers who do not pursue [college] degrees" (*America's Choice* 1990, 6). States must also develop comprehensive systems of professional and technical certification that recognizes workers' skills and competencies in and across industries, not just specific companies. Furthermore, "all employers should be given incentives and assistance to invest in the further education and training of their workers and to pursue high-productivity forms of work organization" (*America's Choice* 1990, 7).

Businesses must reorganize from traditional, hierarchical workplaces that teach specific rote tasks to high-performance work organizations that empower workers to analyze and improve their own work processes. The report also recommends that companies spend 1 percent of their payroll on worker training. Companies that refuse to do so would be taxed that amount to develop universal worker education programs.

America's Choice has had a strong impact on federal and state policy debates surrounding education and training. President Clinton and Ms. Hillary Rodham Clinton have been strong champions of *America's Choice*, and Oregon's far-reaching educational reform is based on the report's recommendations.

Secretary's Commission on Achieving Necessary Skills (SCANS)

In 1991, U.S. Secretary of Labor Lynn Martin convened the Secretary's Commission on Achieving Necessary Skills (SCANS), which asked employers to identify the skills that they felt well-prepared workers needed to compete in a global marketplace. The resulting responses argued for changes in school structures and curricula to better prepare students for their future work roles. Specifically, the commission found:

a. Schools must do better jobs of preparing all students for work, especially those who do not go on to college-level education;

b. Preparation for work should be a priority;

c. Educational institutions must work with employers to find out what firms need and involve them in determining what students should be learning;

d. Educators need to change how they teach. Instead of breaking learning into small parts which neglect the integration of knowledge and skills, students should learn to apply a combination of skills; and

e. Schools must think strategically with an eye on the future.

The SCANS report also recommended that there be national standards of occupational competence, reform of testing practices, and changes in certification to reflect benchmarks.

States are using SCANS and reports like it to develop workplace competencies at all levels of the curricula and in career counseling. New Jersey high school graduation requirements are currently under review to ensure the inclusion of fundamental skills, including those recommended by the SCANS report. An Illinois task force recommended that colleges and universities guarantee that graduates possess basic reading, writing, and computational skills and provide upgrading courses, tuition free, to any graduate who does not possess these basic skill competencies. Commercial assessments are also being developed, including the American College Testing's Work Keys program which will assist states in developing a system for teaching and assessing employability skills and the Educational Testing Service's Worklink, which is expected to combine a data base of information on individual students with a skills assessment.

Emerging Policy

The following is a sampling of emerging federal policy being considered by Congress.

Youth Apprenticeship Act

The federal Youth Apprenticeship Act is currently pending in Congress. It would:

a. Establish a systematic transition for students from school to work by combining work experience with work-related curriculum,

b. Identify and develop competency standards for youth apprentices, and

c. Test a range of approaches to youth apprenticeship programs.

The proposed governing board would establish national guidelines and criteria for youth apprenticeship programs. Each model apprenticeship program would establish partnerships between secondary and postsecondary schools to provide apprenticeship training to junior high school, high school, and technical college students.

High Skills, Competitive Workforce Act

Legislation to implement the *America's Choice* recommendations is contained in the High Skills, Competitive Workforce Act now before Congress. Title II of this bill outlines standards of excellence in education and training in an effort to stimulate adoption of a voluntary national system of industry-based occupational standards and certifications of mastery. Title II also provides guidelines for school-to-work transitions, including:

a. Career preparation programs to provide information about career and skill development opportunities,

b. Community career services to provide job coaching services and organized access to private sector work experience,

c. Youth Opportunity Centers to provide alternative means of attaining educational proficiency standards, and

d. Partnerships between colleges and business organizations to promote advanced technical education and training.

The bill also encourages the development of high-performance work organizations and creates a High Skills Training Consortia to stimulate better use of advanced technologies and techniques by private firms. In addition, it establishes new state and regional employment training systems to coordinate the administration of other federal and state programs,

including vocational education, JTPA, drop-out prevention and recovery, adult education, vocational rehabilitation, welfare reform, and employment service programs. Employers with 20 or more employees will be required to devote not less than 1 percent of their payroll to organized training programs.

Current National Efforts

The following is a sampling of current national efforts for education and employment transitions.

Tech Prep Programs

Tech prep programs are supported by the federal Carl D. Perkins Vocational and Applied Technology Education Act of 1990. Secondary students can enroll in clearly identified courses leading to specific postsecondary majors in technical fields. They will be able to focus their learning toward employment or toward further education that could result in a baccalaureate degree. Tech prep begins with a solid high school program of applied academics, technical training, and career awareness and continues with a planned transition to an apprenticeship or postsecondary education (Daines and Ryerson 1992).

Youth Apprenticeship Programs

Collaborative arrangements between schools and employers that coordinate classroom and on-the-job experiences exist on a relatively small scale. One long-established program is cooperative education, which involves 500,000 to 600,000 students nationally (*Transition From School to Work* 1990, 7). The traditional age of apprentices in the United States is 29; comparable programs for youth apprenticeships are now offered in some states in high schools and two- and four-year colleges. These youth apprenticeship programs combine classroom instruction with work experience and on-the-job training. Most youth apprenticeship programs:

a. Require participants to complete high school,

b. Give students on-the-job training with up-to-date equipment,

c. Provide school credit for on-the-job training,

d. Involve employers in planning programs and developing related instruction to meet training needs, and

e. Assist in addressing labor shortages in certain skills areas (*Transition from School to Work* 1990, 37).

A Sampling of State Initiatives

The following is a sampling of education and employment transitions efforts in several different states.

Oregon

Oregon has legislated systemic changes based on the *America's Choice* report. The reform is based on the following assumptions:

a. Oregon cannot continue to under-educate youngsters and train workers for low-skill jobs that pay low wages;

b. Oregon cannot afford to waste a single citizen, including any at-risk child or those culturally less prepared to enter the workforce—women, minorities, the disabled, and immigrants;

c. Oregon must influence businesses to create high-skill jobs which pay adequate household wages; and

d. Oregon must recognize that changes in both social and economic policy are crucial for a high-skill high-wage economy.

The legislation called for:

a. Established standards of educational performance for all students that match the highest of any in the world,

b. Certificates of Initial Mastery and Advanced Mastery in the tenth and twelfth grades as new high-performance standards for all students,

c. Alternative learning environments and services which offer opportunities for those experiencing difficulty in achieving the knowledge and skills necessary to obtain the Certificate of Initial Mastery,

d. Early childhood programs and academic professional technical programs as part of a comprehensive educational system, and

e. Partnerships among business, labor, and educators to develop standards for academic professional technical endorsements and the provision of on-the-job training and apprenticeships necessary to achieve those standards (*Oregon Educational Act for the 21st Century* 1991, 2).

School districts may redesign how they deliver education, including changing curriculum, modifying administrative rules and policies, and developing new programs to respond to emerging needs. By the

1997-98 school year, a Certificate of Initial Mastery will be required for enrollment in any public education program that leads students to further certification or education.

Wisconsin

In 1991, Wisconsin enacted a reform effort called the Wisconsin School-to-Work Initiative (WSWI). The initiative encompasses a variety of initiatives, including an assessment examination, tech prep, postsecondary enrollment options, youth apprenticeship, and child labor laws. The state education department was charged with developing a methodology to measure each student's educational progress during or following completion of the tenth grade. The assessment program must:

a. Involve an evaluation of core competencies (such as reading, writing, mathematics, and scientific literacy), as well as performance-based abilities (such as problem solving, analytical skills, and reasoning skills);

b. Allow comparisons of pupil performance across school districts on the basis of designated state and school district outcomes and goals; and

c. Help tenth graders decide whether to enroll in college-preparatory programs, tech prep, or youth apprenticeship for their last two years of high school.

The WSWI makes school districts responsible for developing tech prep programs in each high school. Tech prep programs combine applied academics with specific skill training to help students prepare for high-technology jobs. These programs also are designed to provide advanced academic standing to high school graduates who pursue further education at state technical colleges. The state education department and the Vocational, Technical and Adult Education (VTAE) district boards will provide assistance to school districts in developing the tech prep programs, although school districts will bear the cost of the program.

The postsecondary enrollment options program is much like Minnesota's. Eleventh- and twelfth-graders can take courses at a University of Wisconsin campus, VTAE college, or private college for high school and college credit.

Wisconsin's youth apprenticeship initiative is focused on high school students, but may also qualify participants for advanced standing in a traditional apprenticeship. The program includes the following components:

a. Satisfactory performance on the tenth-grade assessment examination will be necessary for enrollment in a youth apprenticeship (*A Discussion Paper: Wisconsin's Youth Apprenticeship Program* 1992, 4);

b. Apprentices will be encouraged to continue their education at a technical or four-year college following graduation from high school, although students will have the option of entering the workforce directly;

c. Expanded career and education options will be available for all participants;

d. Students must complete an approved industry-specific survey course encompassing an overview of occupational options, wage and employment expectations, and technology requirements before beginning an apprenticeship;

e. Time spent at the workplace will be limited to 15 to 20 hours per week during the school year; and

f. Apprentices will be paid an hourly rate, above the minimum wage, by the employer.

California

California Partnership Academies were established as three-year high school programs beginning in tenth grade and are structured as schools-within-schools. Programs include:

a. Courses focused on occupational themes, coordinated with academic courses that teach essential academic skills;

b. A student selection process that identifies ninth-graders who are low achievers but have the potential for improvement;

c. A small group of teachers who plan and implement the program; and

d. A rich variety of motivational activities, including parental support, a well-developed reward structure, speakers, field trips, mentors, paid work experience, and a constant monitoring of progress with feedback to students (Dayton et al. 1992, 540).

Businesses, teachers, and administrators serve on an academy's steering committee to oversee the program, develop the technical curriculum, and ensure its currency and relevance to their field. Participating firms also agree to provide summer and part-time jobs during the school year for academy students and full-time jobs for academy graduates.

The academy curriculum meets all California requirements for high

school graduation and community college entrance and offers electives necessary for admission to four-year colleges. Each financial grant from the state for an academy must be matched by the receiving district and the supporting business community. In addition, the grant is based on the number of students from the program who meet specified standards for attendance and credits.

Common Elements of Statewide Work-Based Learning Programs

Experiences in other states indicate that successful education and employment transition programs must be central to a state's educational reform. Successful programs are built upon the following principles:

a. A clear system of governance and clear roles for program participants (employers, labor, government, secondary schools, students, and two-year and four-year colleges and universities);

b. A system driven by the needs of industry which is a full participant;

c. Clear communication and standards to link high schools, work-based learning, and postsecondary education;

d. Program benchmarks and clear performance standards;

e. Programs linked to further education and lifelong learning; and

f. Effective support and guidance for all students.

Conclusion

On a national level, a certification and training program does not exist for non-college bound students. Those who make the transition into the workforce after high school without sufficient preparation often remain underemployed in low-skill jobs and uninformed of alternatives to a four-year college education. In return, employers must choose from workers who have a low level of remedial skills. A deliberate, systemic transition program would allow people to enter the workforce and/or educational programs as able, lifelong learners.

CHAPTER SIX
EDUCATION AND EMPLOYMENT TRANSITIONS IN OTHER COUNTRIES

Drew B. Larson, Minnesota Technology, Inc.

James J. Hoskyn, Minnesota House of Representatives

Leo G. Christenson, State Council of Vocational Technical Education

This chapter discusses education and employment transitions in countries other than the United States. While it is not possible to provide a complete catalogue reflecting the range and scope of international education and employment transition efforts, illustrative programs are examined and reviewed in this paper.

Important lessons emerge from these programs for policymakers as they debate the need for integrated employment transition systems in Minnesota:

Lessons from Western Europe

a. *In-depth exploration of occupations and the world of work can be successfully integrated into the school curriculum at an early level.* In Germany, Sweden, and the Netherlands, secondary school students are given broad exposure to occupations and general aspects of the work world through a variety of mechanisms.

b. *The workplace can be much more effectively utilized as a place of learning and hence as an extension of schooling in the U.S. than it is at present.* Marketable skills can be successfully developed and reinforced through a structured program of learning which takes place principally in the workplace.

c. *Society must value the trades and occupations that do not require a university education.* The cardinal elements of the dual apprenticeship system in Germany, particularly extensive on-the-job and classroom training options, clearly delineated skills standards in all apprenticeship trades, and national recognition of the successful apprentice's credentials. All enhance the credibility given to technical occupations.

Lessons from Japan

a. *The educational system should mirror the work environment.* Japanese companies encourage high-performance work environments which revolve around collective worker participation in shop floor decisions. Workers are often rotated to different positions around a plant. This indicates a need for workers who know how to cooperate, work in teams, and learn quickly.

b. *Schools must play a much stronger role in helping youths obtain employment.* In fact, youths in Japan obtain employment almost exclusively through school-employer linkages.

c. *Employers should take on much of the responsibility for developing the skills of the workforce.* About 75 percent of Japanese firms provide some training to their workers. The predominant type of training occurs on-the-job, where workers are usually rotated through the employment facility to learn all the different work processes.

Western Europe

Historically, enrollment in vocational and training programs in Western European countries blocked an individual's path to an academic higher education. Beginning in the mid-1960s, however, most countries expanded their general studies requirements, made 13 years of study at the secondary-level the norm (rather than the exception), and instituted other reforms that raised qualifications for all students. These changes resulted in higher basic academic skills for all students, enabling them to pursue challenging vocational and academic programs.

Germany

The German dual system of apprenticeship dominates most discussions of successful education-to-employment transition programs. It has become the benchmark against which many education and employment transition efforts are measured. Much of the education and workforce reform efforts in the United States have been modeled on the German system. As many American educators and employers become familiar with the deliberate education and employment transition systems in Germany, they recognize that the United States' approach is piecemeal at best.

Public Education in Germany. Attendance at primary school in Germany begins at age six or seven and lasts four years. Based upon performance and teacher recommendations, students then progress to one of three types of secondary school: *Gymnasium*, *Realschule*, or *Hauptschule*. Generally all three forms of secondary school offer a common core of subjects, including German, mathematics, science, and social studies (Hamilton 1990, 78). However, the depth of exploration and pace of advancement in these subjects differs across schools.

Gymnasium places students on what many Americans view as the "college track." About 30 percent of students are selected for study at *Gymnasium* (Petersen, Hurrelmann, and Leffert 1992, 10). *Gymnasium* lasts for nine years and provides a rigorous classical education in subjects that include German, foreign languages, social studies, history, geography, mathematics, natural sciences, art, music, and sports. By most estimates, these schools are academically more demanding than American high schools. After completing *Gymnasium*, most students apply to a university.

Another option for students who complete primary school is *Realschule*, or intermediate secondary school. *Realschule* offers students academic and vocational coursework for six years at a difficulty level that falls between the other two secondary schools. Approximately 25 percent of the primary school students attend *Realschule*. One knowledgeable observer of German education notes that increased competition for jobs has fostered a trend toward *Realschule* and away from *Hauptschule* (Hamilton 1990, 146). In a sort of credential inflation, jobs which formerly required only completion of *Hauptschule* now require *Realschule* certification.

Another 30 percent of students attend *Hauptschule*. It is essentially a junior secondary school and the destination for the least academically accomplished students. *Hauptschule* takes students through the ninth grade (age 15 or 16).

The German Dual System of Apprenticeship. By the time students have reached the age of 15 or 16, they will have completed either *Realschule* or *Hauptschule*. Two-thirds of graduates of these schools then choose to enter the dual system of apprenticeship (Nothdurft 1989, 32). Thirty percent of apprentices enter from *Realschule* and another 60 percent from *Hauptschule* (George 1987, 27). This system of apprenticeship is "dual" in a number of ways: (a) two learning sites are used—school and workplace; (b) two levels of sponsorship exist—by state governments and by individual companies; and (c) two levels of supervision are used—by the Ministry of Culture of the states involved, which oversee the vocational schools' training programs, and by the sponsoring firms in tandem with the industry or craft associations, which oversee the work place training (Max Planck Institute 1983, 41).

The dual apprenticeship system is the dominant form of German upper-secondary education, with 60 percent of 16 to 18 year-olds participating. In 1987, there were 1.8 million apprentices in West Germany, equivalent to 7.1 percent of civilian employment. That same year, the United States had 340,000 apprentices, or 0.3 percent of civilian employment (Brodsky 1989, 41). The U.S. would have to enroll an additional 6.6 million apprentices to match the proportion of youth who are apprentices in West Germany (Hamilton 1990, 39).

Students in the dual apprenticeship program may choose from approximately 400 trades or specialties. Apprentices usually spend four days a week at the workplace and one day at the vocational school specializing in their chosen trade. The vocational schools provide instruction in subjects such as social studies, politics, and business law, as well as a body of vocational theory strongly targeted toward the apprentice's area of specialty. Classroom time is usually divided into one-third general coursework and two-thirds trade-oriented coursework (George 1987, 27). The greatest majority of education takes place at the work site—"... the instruction which apprentices receive in a part-time vocational school is only an accompaniment to their training in a firm" (Max Planck Institute 1983, 240). Apprentices work under the direct guidance of a master, who often serves as an all-around mentor. This mentoring aspect of apprenticeship is an essential part of the worker's training.

Apprentices sign a written contract with the employer specifying each party's responsibilities and a future wage, which is negotiated nationally between unions and employer trade or craft associations (Nothdurft 1989, 33). It is typically 20 to 40 percent of the beginning wage of a skilled worker (Brodsky 1989, 40) and usually increases annually during the apprenticeship. The employer "invests" in the apprenticeship agreement by agreeing to pay the apprentice's wage, as well

as the costs of their instruction at the vocational school.

Journeyworker Status. In most trades, an apprenticeship lasts three years. Upon completion, the apprentice takes written and practical exams. Passing both entitles an apprentice to become a journeyworker, with country-wide recognition of the credentials. After three more years of work and classroom instruction, a journeyworker may take an examination for certification as a craftsperson. By law, only craftspeople are allowed to operate their own businesses in Germany.

Skill and knowledge requirements for successful completion of apprenticeships are determined collectively by the Federal Institute for Vocational Training, representatives of the trade or industry associations, and trade union officials. Requirements and specifications defined by these officials are contained in federal training directives. The directives, in addition to prescribing skill and knowledge requirements for specific occupations, contain regulations governing the time spent in apprenticeships, division of training content into specific time segments, and final examination requirements. Despite the fact that responsibility for determining key elements of the apprenticeship is shared, worker training in the dual system is strongly subject to the firm's influence by simple virtue of the fact that the apprentice spends the great majority of time at the work site (Max Planck Institute 1983, 241-246).

Gender does appear to play a role in the specialties German apprentices choose for their training. Traditional male occupations—motor mechanic, electrician, painter, and carpenter—remain predominately male. Women tend to choose trades such as hairdresser, sales assistant, office clerk, and physician's or dental assistant as their occupation.

Career Counseling in Germany. Germany consistently gets high marks for the emphasis placed on career education and vocational counseling. Local vocational information centers play a key role in efforts to ease education-to-employment transitions. These centers are arms of local employment offices run by the Federal Institute of Labor, which has the lead role in providing vocational counseling for youth and adults in Germany. The centers provide a variety of vocational-related services for youth entering the dual system, as well as for students entering specialized colleges or universities. Because all employers are urged to register their apprenticeship positions with the centers, they are particularly well-positioned to offer assistance to would-be apprentices.

The centers team up with secondary schools to offer lecture series, parents' meetings, company tours, career education booklets, and presentations via computer-aided media about career options (Center for Governmental Studies, Northern Illinois University 1991). The vocational centers also provide counseling and placement services. Counseling can occur individually or in groups and typically encompasses qualifications and aptitude assessments, reviews of training opportunities and occupational characteristics, financial assistance information, and training availability for a particular occupation. Center staff help match the interests and aspirations of job seekers and apprentices with the needs of suitable employers. The major employer associations cooperate in the placement efforts as well (Center for Governmental Studies 1991).

The United States, in contrast, lacks a coherent system to translate the secondary education experience into a career path. Recent research indicates that even youth who complete high school do not find career-entry positions until their early to mid-twenties (Peterson, Hurrelmann, and Leffert 1992, 17).

Criticisms of the Dual System. Despite its many strengths, some characteristics of the dual system have been the subject of considerable debate and controversy.

a. Tracking. Many U.S. observers argue that separating students into university and non-university bound groups at the relatively young age of ten offers too little opportunity for students to change course once they have begun secondary school. There are, however, ways of gaining entrance to *Gymnasium* if not placed there originally. First, parents may appeal a primary school's recommendation and have their child placed in *Gymnasium* at the start of the school year for a trial run. School officials then make a final decision about permanent admission. Second, after two years in *Hauptschule* the student may take an examination to advance to *Gymnasium* or *Realschule*. Strong performance in *Realschule* can also position graduates for entrance to the upper levels of *Gymnasium*.

b. Rigidity and overemphasis on credentials. Where Germany spells out skill requirements and job definitions in great detail for each occupation, the United States often leaves such specifications open to negotiation between the job applicant and the employer. This more fluid approach toward employment allows U.S. workers to take up new occupations without the extensive training and credentialing that would be required in Germany. Many jobs considered unskilled in the United States are skilled

trades in Germany, with strong emphasis on the achievement of what some consider narrowly prescribed educational and skill-based credentials. There is some realization, even in Germany, that its credentialing system may have gone too far. In an attempt to ameliorate this trend toward specialization, the number of apprenticable occupations has dropped from over 600 in 1971 to less than 400 in 1989 (Hamilton 1990, 48). Part of the underlying motive for this reduction is an allowance for broader training.

c. Underemphasis on school-based instruction. Most apprentices spend one day a week at a vocational school taking course work in their trade or craft. This has increasingly been viewed as insufficient to produce the adaptable and well-rounded workers called for by tighter labor markets and increased international competition. There is a movement afoot in Germany to alter the work-to-classroom time ratio to enable apprentices to spend one-and-one-half or even two days a week in the classroom. As one might expect, this innovation is generally applauded by the education community but viewed with suspicion by employers.

d. Perpetuation of gender stereotypes. In general, occupations are more gender stereotyped in Germany than in the United States. Placing youth in the workplace as apprentices at age 15 or 16 can strengthen occupational stereotypes by gender, since relatively few individuals of that age possess the self-confidence needed to enter fields in which members of their sex are not well-represented (Hamilton 1990, 144).

e. Competition for apprenticeships. It would be misleading to suggest that all German youth proceed directly to the apprenticeship of their choice following completion of secondary school or that they even later find a job in the occupation to which they were apprenticed. Tighter labor markets and increased economic competition have intensified competition for apprenticeships in Germany, especially for more prestigious occupations and employers. As researchers have noted:

> Most of the young Germans who sought apprenticeships had made multiple applications. Many of the young Germans were eventually settling for training in the occupations and with firms that the individuals considered second- or third-best. This was because many had lost out in the competition for high-grade apprenticeships with their more qualified contemporaries (Petersen et al. 1992, 24-25).

In short, while the dual system offers sound training for a good number of German youth, they are not guaranteed their choice of an apprenticeship and many do not advance to a job in the occupation of their training.

Lessons for the United States. There are three lessons the United States may take from the German system:

a. In-depth exploration of occupations and the world of work can be successfully integrated into the school curriculum at the junior high level. In Germany, secondary school students are introduced to a variety of possible occupations and general aspects of the work world through the efforts of the vocational information centers. Although there has been a general recognition in the U.S. of the need to begin and improve career counseling at earlier educational levels, efforts to do so have been haphazard. In Germany, they are firmly institutionalized.

b. *Workplaces can be much more effectively utilized as a place of learning and hence as an "extension" of school.* Learning in the workplace is the very foundation of the dual system. The U.S. could draw on the dual system's workforce training successes by implementing new, more extensive forms of student involvement with occupations likely to provide the moorings for a solid future career and a strong income. The dual system convincingly shows that marketable skills can be successfully developed and reinforced through a carefully structured program of learning which takes place principally in the workplace.

c. Trades or occupations that do not require a university education should be valued. The cardinal elements of the dual system—extensive on-the-job and classroom training options, clearly-delineated skills standards in all apprenticable trades, and nationwide recognition of the successful apprentice's credential—serve as a testament to the value Germany places on such occupations. Further, the apprenticeship structure is complemented by a balanced career education system: one that gives students

early and realistic exposure to a full range of career options, including technical or trade occupations. In short, an extensive system caters to the needs of the non-university bound in Germany. The United States lacks such a supportive infrastructure for students who choose not to go to college. As one analysis found:

> Even by the most liberal calculations, the combined state, local, and federal education and training investment on behalf of non-college bound youth is only approximately one-seventh of its investments for those who are college-bound (Educational Testing Service 1990, 4).

Settling on a technical career is considered a distinctly inferior choice by many in the United States. But by examining the approaches used by Germany and other countries in emphasizing the worth of technical careers, the United States can begin moving away from the notion that the "college track" is the only route to success.

Sweden

Approximately 90 percent of Swedish primary school graduates continue their education following the compulsory nine years in school. Comprehensive examinations are not used to place students. Instead, grades for only the final two years of their compulsory education are used to gain admission to upper-secondary education.

Sweden does not have an apprenticeship system. Rather, vocational and general education paths are available in the same school. Alternatives are provided through course content and length of study, rather than through different institutions. A national curriculum emphasizes linking theoretical learning with practical application in the workplace. Early exposure to the workplace (sometimes by age seven) has the additional aim of counteracting gender-based occupational stereotypes.

Swedish companies are taxed on their pre-tax profits for a national account designated solely for training, research, and development (Opper 1989).

Students at age 16 can choose from 27 courses of study in six educational or occupational divisions in the upper-secondary schools. Those who do not plan to attend college spend 10 to 20 percent of their time in work settings their first and second years and as much as 60 percent of their time in their final year.

Compulsory schools are responsible for outreach to students who leave school and do not enroll in an upper-secondary school. Two national programs, the national Youth Opportunities Program (YOP) and Youth Teams Act (YTA), are the primary means of providing practical work experience to students who drop out of school. YOP allows 16 and 17 year-olds to obtain temporary employment for up to six months. YTA requires local public employers to help organize work for jobless 18 and 19 year-olds and for certain disabled individuals up to age 25. Instead of unemployment benefits, they are entitled to four hours of work each day for up to five days per week for as long as two years (up to six years for disabled individuals). Both programs facilitate entry into the workforce of hard-to-employ youth on a more permanent basis and try to motivate them to continue their education. Jobless youth, age 20 and older, are included in an adult program.

Japan

The Japanese education and employment transitions system is consistently cited as a strong contributor to Japan's emergence as an economic superpower over the past 20 years.

Education System

Japan requires its students to attend school for nine years, six in elementary school and three in lower-secondary school. Students attend school for 240 days annually, compared to the U.S. average of 180 days (Sato and McLaughlin 1992, 359-366). Japanese society, educators, and parents place high expectations on educational achievement. Students who fall behind are required to spend extra time during weekends, evenings, and vacations to catch up their assignments (*America's Choice* 1990, 59).

A three-year upper-secondary education is available to students following completion of their compulsory education. While it is only voluntary, 94 percent of students attend (Kolberg and Smith 1992, 60). Upper-secondary schools are ranked academically in each district, and students must take a high school entrance examination to determine which schools they may attend. Of the 6 percent of students who do not advance to the upper-secondary level, fewer than 1 percent fail to pursue some sort of vocational training or work (George 1987, 33).

The elementary, lower-, and upper-secondary education systems provide general academic knowledge and stress values of hard work and cooperation (LeClerq 1989, 194). The fact that Japanese students, regardless of achievement, advance to each grade with age-level peers reflects the priority that their society places on group identity and cohesion (Sato and McLaughlin 1992, 361).

All Japanese high school students enroll in either an academic or vocational program. Approximately 49 percent of upper-secondary schools offer academic programs, 23 percent offer vocational programs, and 28 percent offer both. The first year of coursework in both academic and vocational schools focuses on general skills, including mathematics, science, Japanese, and the social sciences (George 1987, 33). School-based education puts great emphasis on general and theoretical knowledge as a foundation for later work-based and job-specific training (LeClerq 1989, 187).

Vocational high schools put considerable emphasis on general knowledge (half of the credits for graduation must be in Japanese, mathematics, social, and natural sciences). Yet, theoretical elements and their practical application are also emphasized (LeClerq 1989, 187).

Schools for Non-University Bound Youth

There are five kinds of institutions that have primary responsibility for the preparation of non-university bound students for entry into the labor market:

a. Upper-secondary schools, which have already been described;

b. Technical colleges, which are designed to prepare upper-secondary school graduates for specific careers in such areas as engineering, metalwork, and industrial drawing. They tend to prepare higher-level technicians for small- and medium-sized companies (LeClerq 1989, 188);

c. Special training schools, which exist at both the secondary and postsecondary level to provide two- to three-year programs in engineering, agriculture, medical care, nursing, commerce, home economics, and the arts;

d. Practical training institutes, which offer courses in such areas as bookkeeping, automotive repair, computer techniques, and cooking; and

e. Junior colleges, which provide both general and vocational courses and are designed primarily for women, who make up about 90 percent of their enrollment.

Education and Employment Transitions in Japan

In Japan, the education and work environments mirror one another: both stress teamwork and general knowledge. Companies encourage high-performance work environments which revolve around collective worker participation in decisions and planning (*America's Choice* 1990, 63). Thus, workers need to know how to cooperate, work in teams, and learn quickly.

Youths in Japan enter the workforce almost exclusively through school-employer links. Each school has ties with employers who assign to the schools a certain number of jobs for its graduates (Kolberg and Smith 1992, 60). More prestigious (generally larger) employers with better job offers recruit from the higher-ranked schools (Kolberg and Smith 1992, 61). Nearly all students seeking work are placed in jobs through their schools and begin work immediately following graduation. At the start of the school year, the high schools, acting as agents of the public employment services, nominate and rank their graduating students for each job opening using grades and behavior as the primary criteria to determine employability. This selection criteria forces students to do well and realistically assess their career options. Schools know employers' expectations and nominate the students that will meet them. Employers then interview and hire most of the nominees (Kolberg and Smith 1992, 61).

Job Placement

In addition to the schools' involvement in the job placement process, Japan also has developed a job referral system that offers three variations of vocational guidance and placement for new graduates:

a. Public Employment Security Office (PESO)-sponsored placement is operated by the Ministry of Labor and has primary job placement responsibility with the schools playing a secondary role;

b. Shared placement responsibility between PESO and school official is the most common type of placement. PESO's duties are shared with school, college, and university officials; and

c. School-sponsored placement is accomplished by schools, colleges, and universities conducting free placement services, in agreement with the Ministry of Labor (George 1987, 34).

PESO provides a crucial link between employers and the schools. Companies determine their employment needs, and the schools then line up potential candidates through PESO. In the placement of either upper-secondary or university students, there is little direct application by students to employers.

National Organizations Coordinating Youth Policies

In addition to PESO, other federal agencies coordinate youth employment in Japan:

a. The Youth Affairs Administration is responsible for national youth policies and coordinates other ministries that carry out youth-related programs;

b. The Ministry of Education, Science, and Culture promotes the protection, welfare, vocational training, and employment of youth;

c. The Ministry of Home Affairs is responsible for youth programs and policies administered by local governments; and

d. The Juvenile Problems Council advises the Prime Minister on youth policies related to education, guidance, protection, and corrections.

Responsibility at the local level for youth programs is coordinated by each of Japan's 47 prefectures. Each local body maintains an office and council with functions similar to those of the Youth Affairs Administration and the Juvenile Problems Council (George 1987, 33).

Labor Market Information Services in Japan

Japan also has elaborate labor market information services to guide employment and training policies. These services gather data on employer needs in local labor markets and areas with labor shortages or surpluses. This information is used to determine the type of training needed by workers, as well as to match unemployed workers with available jobs (*America's Choice* 1990, 61-62). "One-stop shops" for employment placement, training, and income maintenance are also available for the unemployed, which are funded through unemployment insurance and governed by a board of directors with representatives of local government, business, and labor unions. Unemployment insurance is coordinated with training and paid only as a stipend to those in training. Training for unemployed and dislocated workers is high quality and long term and may last for two or more years (*America's Choice* 1990, 61).

Employer-Sponsored Training

Along with their involvement in the schools, Japanese employers also take on much of the responsibility for upgrading the skills of their workers. About 75 percent of Japanese firms provide some skill upgrading to their workers, predominantly through comprehensive on-the-job training that enables a worker to rotate through the workplace to learn different work processes. Off-the-job training also occurs through company-operated training centers, correspondence courses, and structured group activities (Kolberg and Smith 1992, 60).

While it is widely believed that most workers receive considerable formal training, its extent and character varies widely among firms. Only the larger companies provide significant continuing education and training, yet they employ only 27 percent of the workforce. Thus, most workers do not have access to training opportunities. In addition, only 3.8 percent of the firms offer training that is longer than six months. In fact, two-thirds of all companies offered training that is 10 days or less in length.

Training is also focused on graduates of more highly rated schools. Only 3.6 percent of lower-secondary school graduates (about 50,000 young people) received company training in 1984. By contrast, 41 percent of upper-secondary graduates (about 600,000 individuals) enter company training programs after graduation (LeClerq 1989, 193). Most of this company-sponsored training is aimed at those who have worked for the company for several years and are likely to spend the rest of their working lives with the firm (LeClerq 1989, 193). But, as employees learn skills specific to firms, they are encouraged to maintain a generalist attitude because of the frequency with which they change positions due to rotation, promotion, and/or technological changes. Thus, the emphasis on teaching strong general skills at the elementary and secondary school levels is reinforced in the workplace (LeClerq 1989, 193).

Summary

With its great emphasis on strong basic skills, the Japanese educational system gives students a solid foundation for more specific vocational and work skills, although education and employment processes are quite selective. The highest achieving students attend the most highly rated schools and eventually work at the larger, more prestigious companies which also offer higher levels of training. The remaining students generally end up at small- and medium-sized companies which offer less and lower-quality training. Unfortunately, there appears to be few opportunities to make it into better schools or larger companies if entrance requirements are not satisfied the first time.

CHAPTER SEVEN
BARRIERS TO EDUCATION AND EMPLOYMENT TRANSITIONS

Leo G. Christenson, State Council of Vocational Technical Education

Maja Weidmann, Senate Counsel and Research Office, Minnesota State Senate

The challenge for society, educators, employers, human service providers, students, and their families is to define the knowledge, skills, and attitudes individuals need for success as workers, citizens, and family members. Unfortunately, society does not provide an effective system to support these goals and, in fact, has erected a number of barriers that limit effective transitions from education to employment, including:

a. Little coordinated leadership by public or private organizations to facilitate and direct these transitions;

b. Absence of integrated systems to formulate and implement policies and practices for education, training, and employment;

c. Few integrated efforts to prepare and continuously train current and prospective workers for a constantly changing workplace;

d. Personal and institutional attitudes, values, and beliefs that limit the creation of strategies for change; and

e. Narrow social definitions of education and learning.

Absence of Coordinated Leadership

Currently there is no system to assist learners in making the transition from education to employment. What does exist are separate, uncoordinated programs scattered across a variety of agencies and sectors. A coordinated system of education and employment transitions would integrate programs across education, business, and human services sectors.

One reflection of the waning quality of the American workforce is that only 5 percent of American employers believe educational and skills requirements are rising significantly. Instead, 80 percent say their primary concern is finding employees with a good work ethic and appropriate social behavior (Mishel and Texeira 1991, p. 24). This lack of concern for worker training is apparent in the small investment employers make in their workforces. According to the American Society for Training and Development, only 1/2 of 1 percent of all American employers spend $27 billion of the $30 billion spent on worker training in this country every year. In addition, only one-third of the $30 billion is spent on training non-college educated workers (*America's Choice* 1990, 49).

Lack of training funds is not the only concern; most workers do not receive any training or education once they enter the workforce. The $30 billion spent by companies on training represents less than 10 percent of the nation's annual public education budget, meaning more than 90 percent of U.S. educational resources are devoted to the first 10 to 20 years of a person's life. This distribution assumes little learning will be required during the subsequent 40 to 50 years of working life, a conclusion which is most detrimental to front-line workers (*America's Choice* 1990, 49-50). Thus, while there may be a public dialogue about improving the skills and productivity of America's workforce, there are only scattered efforts to do so.

In contrast, firms in many foreign countries invest in the development of their workforce either by making direct contributions to public employment and training services or to mandatory national training funds. These funds are above and beyond expenditures for private in-house training programs

(*America's Choice* 1990, 115). In response to this minimal investment, the Commission on the Skills of the American Workforce recommended that American firms invest at least 1 percent of their payroll in the education and training of their workers (*America's Choice* 1990, 7).

Public and private leaders must emphasize to firms and workers that constant learning is a necessary part of continuously improving work quality.

Employers must make a commitment to ongoing education if their employees are to model this ethic—a commitment best supported by providing workers with a clear

expectation to keep their skills current with emerging industry practices. This commitment is crucial if workers are to blur the now-distinct division between learning and working.

Public and private sector leaders, however, must do more than encourage their own organizations to make continuous learning synonymous with continuous improvement in work processes. They must also encourage other organizations to develop similar processes and systems. A corporate leader may help local schools define the employment skills a student needs to achieve success in the workplace. School principals could ensure they are encouraging high-quality learning by asking local business leaders to hire those who have completed school and other programs. Human service providers could work with schools and businesses to help public assistance recipients learn skills that meet current and emerging labor market needs, eventually leading to self-sufficiency.

The success of this coordinated approach is based on leaders recognizing that the efforts of public and private organizations must complement and support each other. Companies need well-prepared workers. Schools need places for their students to apply their skills. Human service agencies need strategies and opportunities to help people achieve long-term self-sufficiency. Most of all, however, learners and workers need assurance that if they work hard and develop their skills and abilities, they will have an opportunity for long-term, rewarding employment.

Committed and coordinated leadership is the first step. Until leaders recognize the need to create systems and processes for education and employment transitions, nothing will change.

Coordination in Policy Formulation

The absence of an integrated system to formulate and implement policies for education and employment transitions decreases the ability of educators and employers to adapt to changing learning and workplace needs and creates a mismatch between an individual's skills and emerging job skill requirements. A critical step to resolve these problems is identifying the jobs being created by economic changes and the accompanying necessary modifications in the workplace. Schools and workplaces tend to be hierarchical and competitive, rather than to encourage collaboration and teamwork. Consequently, neither environment is teaching individuals how to learn and work in high-performance organizations. In its report, *What Work Requires of Schools*, the U.S. Secretary of Labor's Secretary's Commission on Achieving Necessary Skills (SCANS) found that nine out of 10 businesses still operate on traditional, hierarchial "Tayloristic" principles (Mishel, 25 February 1992) in which products and services are developed through small rote tasks. To remain viable, business, industry, education, and labor must replace hierarchical management structures with places that empower learners and workers to analyze and improve their own processes.

Unlike its economic competitors, the United States has neither a system that establishes high academic standards for non-college bound students nor a process that assesses established standards (*America's Choice* 1990, 4). Although there are cultural and economic differences between the United States and its major economic competitors–Germany and Japan, particularly–the latter are committed to a philosophy of education and training that supports high-performance workplaces. More specifically:

a. They insist that virtually all of their students reach a high educational standard;

b. They educate non-college bound learners for skilled work and ease the transition from education to employment;

c. They operate comprehensive labor market systems which combine training, labor market information, job search, and income maintenance for the unemployed;

d. They support company-based training through general revenue or payroll tax-based financing schemes; and

e. They have national consensus on the importance of moving to high-performance organizations and building high-wage economies (*America's Choice* 1990, 65-66).

In the United States, there are few incentives for employers to support training. Support services that do exist for individuals, facing changes in their education or employment situation, typically are not coordinated with school and work environments. In the words of the Secretary's Commission on the Skills of the American Workforce (1990, 53):

> The network of public training activities in the country has thus been created as a result of unrelated educational, social, and economic development goals, rather than from any overall vision of human resource development. These various and often unintended origins of our adult training and employment "system" have

created a bewildering array of services, programs and providers.

Because of the relationship between socioeconomic status and educational achievement, cooperative efforts between human service agencies and schools can go a long way toward addressing barriers that hinder a person from being "education-ready" or "employment-ready." Halperin (31 October 1991) documented 60 relatively successful policy initiatives across the country to increase coordination and collaboration between programs. However, it appears that even these 60 policies lack the integration that includes all stakeholders—businesses, schools, human services agencies, students, and families.

Collaborative Efforts

The lack of integrated efforts to prepare and continuously train workers results in schools, employers, and human services providers addressing the needs of current and future workers in fragmented ways. Little consideration is given to an individual's total needs or to creating a coherent system to meet those needs.

Currently, 50 percent of American high school students are pursuing general education with no focus on post-graduation goals, especially future employment (Clinton, 8 October 1991). To facilitate a successful transition between education and employment, core competencies must be defined for each student (Hobson, 25 February 1992). SCANS has identified five competencies that are crucial to effective job performance: (a) identifying, organizing, planning, and allocating resources; (b) working well with others; (c) acquiring and using information independently; (d) understanding complex interrelationships; and (e) working with a variety of technologies.

Other initiatives include:

a. A recommendation by the Commission on the Skills of the American Workforce to develop a system of professional and technical certification that recognizes worker skills and competencies across industries, as opposed to only within specific companies (*America's Choice* 1990, 6); and

b. Efforts by the National Council on Education Standards and Testing to produce national benchmarks in five subject areas that states and localities can use to measure learner competencies, as well as determine the competencies learners need to develop (Wirt, 23 January 1992).

It is crucial to counsel learners about prospective employment situations early. Teachers and counselors often lack first-hand experience with the demands and requirements of a broad array of jobs, and like the curriculum, teachers and counselors are focused on college-bound students. This prevents students from finding out about many high-skill, high-wage technical jobs that do not require a four-year degree. Yet, schools cannot do the job alone. Employers must be part of the process, as must the various health and human service agencies. Only a true collaboration of schools, firms, public agencies, and families can provide individuals with the support they need to make effective education and employment transitions.

Values and Attitudes That Limit Strategies for Change

Educators and business owners in America today often blame each other for their problems. Educators say that businesses are unwilling to provide the necessary financial resources to support quality schools. Business owners say students lack the skills and attitudes needed for high-quality work. Yet, few schools and businesses work cooperatively to identify and develop strategies to produce high-quality learning environments or high-skill workers.

If these parties are to work together to solve these problems, it will require changes in their attitudes, values, and beliefs. Schools must recognize that one of their primary roles is to help students achieve self-sufficiency by gaining the knowledge, skills, and attitudes that meet current and emerging needs of the workplace. Teachers must stay current with workplace practices, and schools must support them in doing so. Employers must recognize that schools are their primary suppliers of workers and that competitive success is dependent upon educational success. Employers must help define the current and emerging skills needed by workers and help schools develop curricula and teacher training to train high-skilled workers. Due to the increasing pace of technological change, businesses might even need to link skilled workers with learners to develop the skills necessary for high-quality work.

If American society is going to control the pace and consequences of the necessary change, collaborative and coordinated leadership, planning, and learning processes must be developed. Commitment to the development of these processes must be reflected in changes in personal and institutional attitudes,

values, and beliefs that are focused on learning, quality, meeting customer needs, and responsibility.

Definitions of Education and Learning

A major barrier to education and employment transitions is society's narrow definition of education and learning. When most people think of education, they envision sitting quietly in a high school at one of 20 or 30 desks arranged in rows facing the front of a classroom, while a teacher lectures on a particular subject. In this scenario, schools and teachers rarely are focused on helping students understand and personalize information. Little of the information presented in the typical high school setting remains with the student once they enter the work world. In fact, many have difficulty understanding the relevance of the information being presented to them. The William T. Grant Commission on Work, Family, and Citizenship wrote:

> Young people's experiences at home, at school, in the community, and at work are strongly interconnected, and our response to problems that arise in any of these domains must be equally well integrated. Our society cannot expect to deal successfully with just one aspect of a person's life and hope to bring focus to every other. Efforts to produce success in school—without complimentary efforts in families and communities—are unlikely to make a substantial difference for young people. (1988, 3)

Rarely is the quality of classroom experiences measured by how well a student can apply the principles and skills being taught to problems and situations in his or her own life. This passive classroom learning bears little resemblance to the working world, where individuals are asked to apply their knowledge to create things, change behavior, help people, and solve problems. It is a world where the application of knowledge increasingly defies categorization—where learning means applying the information.

Americans also tend to define narrowly where learning can occur. In essence, it must happen in a place called school. It has been demonstrated that people learn whenever an experience is personally important to them (Glasser, 1990, 5). Whether knowledge is gained in a classroom, at home, or within a work or a community setting is immaterial; instead, learning should be measured according to what someone knows and is able to do with the knowledge. Students must begin to view all their experiences as learning opportunities. Educators must help students develop this point of view.

When learning becomes active, the line between theory and application becomes blurred. Suddenly, the roles of student, teacher, and worker begin to overlap so that a person performs all three simultaneously. With this overlap, students are better able to articulate their learning needs and ask why they are learning something and how they can use it. In addition, teachers begin to relate their curricula to other subjects and to the world outside the classroom, and workers begin to see themselves as students who need to acquire new knowledge to improve their work. Learning can and should occur everywhere.

Conclusion

The barriers described point to the failure of both public and private sectors to develop clear and accessible systems for education and employment transitions. Creating such systems requires leadership to commit to change and improvement; schools, businesses, and community organizations to work together; and society to change its attitude about learning and work.

CHAPTER EIGHT
THE ROLE OF PUBLIC AND PRIVATE SECTORS IN EDUCATION AND EMPLOYMENT TRANSITIONS

Jeanette R. Daines, State Board of Technical Colleges

Lynne M. Batzli, Minnesota Department of Jobs and Training

Barb Anderson, Minnesota Department of Human Services

The Task Force on Education and Employment Transitions heard testimony from a variety of national and state experts about the possibilities and challenges of constructing effective systems to improve the movement between education and employment. An important collection of themes emerged to guide the task force's deliberations and recommendations for an effective system of education and employment transitions in Minnesota:

a. The importance of collaboration between public and private sectors;

b. Delineation of the roles and responsibilities of governments, employers, labor, and other organizations;

c. Establishing uniform standards for success and certification; and

d. Developing meaningful evaluation strategies to assess the success of both systems and programs and using the data to continuously improve the system.

Senator Tracy L. Beckman, co-author of the task force legislation, stated that "the creation of the task force is the first step to develop a state-wide plan for implementing programs for education and employment transitions (Task Force Minutes, 26 September 1991)." As the task force began its examination, it became evident that both public and private organizations were shouldering responsibilities in this area, albeit in uncoordinated ways.

Both government and private firms have key roles to play in developing effective education and employment transitions in Minnesota. The public sector traditionally has provided structures and resources that define the parameters of what society "officially" supports. By contrast, the private sector has worked to further causes of a particular interest or group of interests. Thomas Stinson, the Minnesota State Economist, described the dichotomy between public and private sector goals this way:

> The public sector aims to maintain and develop the quality of life, while the private sector aims to maximize economic efficiency. The respective roles have been maintained through laws, rules, regulations, policy, standards, and ethics—all defining the degree to which something can or cannot be done (Task Force Minutes, 23 January 1992).

However, when discussing transitions between education and employment, the distinctions between the roles of public and private organizations become blurred. Comments and testimony made to the task force showed a willingness by both sectors to redefine their respective roles. When education and employment transitions are viewed as common necessities, needs, goals, and processes, with shared responsibilities, the need for meaningful public-private partnerships becomes more evident.

Cooperation and Collaboration

A strong belief in shared responsibility and commitment set the tone for discussions about the roles of public and private organizations. Relationships between public and private sectors tend to be unequal partnerships, defined more by misunderstanding than collaboration. Yet, government, business, and labor representatives stressed cooperation and collaboration as critical elements in developing effective education and employment transitions.

Frank Newman, President, Education Commission of the States, argued that the key to success is to get "different pieces" and people to work together (Conference Board Contributions Council, 3 June 1991). Christine M. Matuzek, Community and Education Services Director, Minnesota

AFL-CIO (Task Force Minutes, 25 February 1992), and Dennis D. Anderson, Chair, Committee on Human Relations, Council of Growing Companies (Task Force Minutes, 25 February 1992), also stressed the importance of collaboration. Ms. Matuzek encouraged better and more coordinated efforts among government, education, business, labor, students, and parents. Mr. Anderson emphasized the importance of cooperative efforts between the business community, educators, and the public sector. As an example, Commissioner R. Jane Brown, Department of Jobs and Training, described Governor Carlson's Job Skills and Training Cluster [one part of the Urban and Minority Employment Initiative] as a good example of collaboration. Commissioner Brown described the 40 different organizations from the public and private sectors represented on the Cluster as "a tremendous resource . . . [that brings] many insightful ideas to the table (Task Force Minutes, 23 June 1992 and 12 May 1992)."

In a review of successful youth employment programs in other countries, Ann Grindland, a resource team member, noted that the commitment to and responsibility for education and employment transitions was shared cooperatively by government, business, and labor in European and Asian countries. Again and again, the task force deliberations reinforced the need for collaboration between public and private systems (Task Force Minutes, 6 February 1992).

A key ingredient to such collaboration is developing mutual trust and respect. Representative Ken Nelson, a task force member and legislation co-sponsor with Senator Beckman, observed that there is often mutual suspicion between the private and public sectors and argued that such suspicion must be reduced if partnerships are to be effective (Task Force Minutes, 25 January 1992). Ms. Matuzek supported Representative Nelson's view, arguing that leaders need a shared vision to coordinate collaborative efforts and convey a common message to their respective constituencies. She noted that organized labor wants to continue to cultivate and strengthen these relationships (Task Force Minutes, 25 February 1992).

Roles and Responsibilities

Public and private organizations have different roles to play in the development and implementation of a system for education and employment transitions. Both sectors should contribute to: (a) identifying needs; (b) providing resources and services, including support services; (c) mentoring students; (d) encouraging and advocating for transition programs; and (e) ensuring continuous quality improvement. Public and private organizations might approach each of these areas differently or in specialized ways, but their efforts would extend the range of alternatives and resources available to clients and learners.

a. Identifying needs. It was suggested that public organizations, such as educational institutions and employers, should develop lines of communication to better inform educators what skills and training people need to be prepared for employment. This was supported by Steven Lund, Director of Government Relations for the Employers Association, who saw the identification of the skills workers need as a role for business (Task Force Minutes, 25 February 1992). Tom Triplett, Executive Director of the Minnesota Business Partnership, argued that business people could help educators guide students into meaningful careers (Task Force Minutes, 25 February 1992). Other presenters, including Joe Nathan, Senior Fellow at the Hubert H. Humphrey Institute of Public Affairs, expressed concern that high schools were not adequately preparing students for postsecondary opportunities. He noted that an important part of preparation is helping young people clearly understand the kinds of skills they need to achieve economic and personal success (Task Force Minutes, 20 November 1991). Dr. John G. Wirt, Director of the Secretary's Commission on Achieving Necessary Skills (SCANS), stated that education must do a better job of preparing all students for work, especially those in the "forgotten half" who do not go on to college (Task Force Minutes, 23 January 1992). Commissioner Brown stated that "young people should be exposed to a variety of high-quality, high-skill jobs. Schools should get away from teaching theory in a vacuum and begin to help students apply theory to reality." She further suggested that Minnesota needs a data base for students that lists all the education-to-employment transition opportunities in the state.

Because neither students nor workers are homogeneous populations, attention must be focused on individual students. As Rhoda Robinson, a task force member, emphasized, schools need to value and validate all learning styles and skills. This was reinforced by John Goodlad, Director of the Center for Educational Renewal, who pointed out to the Conference Board Con-

tributions Council in St. Louis, Missouri, that potential teachers need to be able to understand and address the value systems of different student populations (Conference Board Contributions Council, 3 June 1991). Al Christopherson, President of the Minnesota Farm Bureau Association, provided another dimension to this challenge by stressing that rural communities, which may have declining populations, need help in fostering leadership skills in their resident students (Task Force Minutes, 6 February 1992).

b. Provision of resources and services. The degree to which different public and private groups were willing to provide resources and services varied greatly. Samuel Halperin, Study Director of the William T. Grant Foundation Commission on Work, Family, and Citizenship, advocated full support of students' higher education costs with the expectation that these costs would then be recovered through future income taxes and national or community service. He further stressed that in order to convince policymakers that this is a sound investment of limited public dollars, educators must demonstrate the connection between economic growth and education (Task Force Minutes, 31 October 1991). In contrast, Dr. Stinson argued that public funding of education and training should vary according to the return society receives on its investment. In his view, general education ought to receive greater public subsidy than specific training because general skills can be used in a variety of productive capacities. Job-specific training should be supported by the employer (Task Force Minutes, 23 January 1992). Eugene Steele, a task force member, noted that larger companies were, in fact, now spending more money on general training than in the past, because their workers lacked the necessary basic skills.

In another presentation, Lawrence Mishel, Research Director of the Economic Policy Institute in Washington, D.C., stressed that training programs underwritten by public funds must help workers gain general skills that are portable throughout an industry. If business and industry find that new workers lack entry-level skills, then a need for publicly subsidized retraining is indicated Task Force Minutes, 25 February 1992). Ms. Matuzek also emphasized that more resources must be dedicated to retrain and educate those already in the workplace. Mr. Lund pointed out that the Employers Association provides training to current workers, but he also argued that the public education systems "need to develop ways to help students gain the skills workers need."

Many private firms are already providing services directly to workers, including some apprenticeships developed by industry networks of small firms. Dr. Newman said that as schools attempt to enact greater reforms, business and industry are aiding them in more sophisticated and substantive ways (Conference Board Contributions Council, 3 June 1991). 3M works with high schools, colleges, and universities to help them develop high-performance organizations. Minnesota Technology, Inc. is raising funds for youth apprenticeship programs in manufacturing, with several different foundations contributing to that purpose. Representative Dean Hartle stated that educators need to develop models that help people learn to build and work in teams (Task Force Minutes, 23 January 1992). During her presentation, Ms. Hillary Rodham Clinton described how other countries require businesses to provide on-the-job training (Task Force Minutes, 8 October 1991). Bobbie Henrie, Director of Special Projects for Minnesota Technology, Inc., referred to Germany's success with youth apprenticeships and recommended that American technical colleges play a larger role in helping students gain technical skills (Task Force Minutes, 20 November 1991).

Another dimension of preparation for work is the development of specific skills. John W. Mercer, the task force chair, focused attention on the development of technology competence learner goals, developed by a task force which he chaired for the Minnesota Department of Education, that had been recommended in the

Minnesota Department of Education's restructured model for secondary vocational education.[6] Dr. Ted Sizer, professor of education at Brown University, suggested that the goal of education should be to create students with strong intellectual habits who know how to use knowledge (Conference Board Contributions Council, 3 June 1991). His position concurred with the SCANS recommendation that students should be taught to think creatively, solve problems, and apply theory to practice. The belief that everyone *can* learn was emphasized time and time again by presenters and task force members.

Some supportive functions need to be targeted at the workplace, either by public or private groups, including efforts to help companies develop high-performance work organizations. Dr. Mishel stated that trade associations must focus on helping member companies reorganize in this way. He added that public contributions could also be made through industrial training services that help small- and medium-size companies improve their organizations and modernize their technology. High-performance organizations are necessary to sustain long-term, continuous improvement (Task Force Minutes, 25 February 1992).

A wide range of support services is necessary for successful transitions, especially for economically disadvantaged people. For example, task force designee, John Petraborg noted that public investment in child care is provided free to people for education and training (Task Force Minutes, 12 May 1992). Commissioner Brown discussed the Head Start program, especially its emphasis on parental involvement, noting that the program's goal is to bring about a greater degree of social integration in children of low-income families. Since 1965, Head Start has been providing comprehensive child and family development services, and been serving as a reference resource for other services available in local communities (Task Force Minutes, 23 January 1992).

c. Mentoring. The importance of mentoring programs was stressed to the task force many times. It was generally accepted that effective mentoring programs should be long term, one-on-one relationships, with a high level of commitment, frequent contact between the parties, and an emphasis on professional occupational development. Current programs include the Big Brother and Big Sister programs, the boy and girl scout programs, One Hundred African American Men, and the Families-to-Families program. One way the private sector is supporting mentoring programs is through cooperative education programs with public schools, designed to help high school students develop transferable occupational skills (Task Force Minutes, 1991-1993).

d. Encouraging and advocating transition efforts. The importance of encouragement and advocacy were cited often in task force deliberations. For example, the SCANS report recommended that the private sector and schools work together to reform systematically the way knowledge is taught so that students are better prepared to work. As Representative Nelson emphasized, the goal of educational policy must be to provide uniform opportunities for all youngsters. To some degree this can be addressed by encouraging greater and more visible access to programs, perhaps by providing multiple opportunities for entrance, and especially by encouraging more women and students of color to pursue mathematics and science occupations. Outreach to the general public was advocated by Robert Vanasek, president of the Minnesota High Technology Council (MHTC). He noted that the MHTC was encouraging the press in particular not only to react to events, but also to predict and concentrate on long term social, educational, and political trends (Task Force Minutes, 19 May 1992).

e. Continuous quality improvement. There was strong support for instilling quality improvement processes throughout the public and private sectors as a way of achieving more efficient use of

6 The Task Force on Technology Competence defined technology competence as "the ability of students to apply knowledge, tools, and skills to solve practical problems creatively, extend human capabilities, and evaluate the impact of technology on themselves and society (1992), 4)."

human resources. Dr. Wirt said that public policy should encourage the development of high-performance workplaces based on the concept of total quality management (TQM) as a means to encourage productivity and growth. As Richard Cohon, President of the C.N. Burman Company of New Jersey, and a member of the Commission on the Skills of the American Workforce observed, companies with high-performance work organizations focus on quality and customer service. Schools that must develop a highly skilled, multitalented workforce can learn from examples in the private sector (Task Force Minutes, 20 November 1991).

Establishing Uniform Standards

While private sector organizations contribute to the identification of standards, the actual establishment or adoption of such standards is the responsibility of institutions. Dr. Wirt said that all parties concerned with the quality of the workforce must be represented in determining standards and benchmarks. Mr. Cohon stressed the importance of creating benchmarks based on "world class" standards. According to Dr. Wirt, employers must be involved in developing outcomes so that the needs of the workplace are well reflected. In the area of youth apprenticeship, Minnesota Technology, Inc. is developing an industry roundtable of multinational companies to set standards. In addition, Leo Christenson, resource team member, pointed out that Title II of the U.S. Senate's High Skills, Competitive Workforce Act outlines standards of excellence in education that would encourage adoption of a voluntary national system of industry-based occupational standards and certifications of mastery (Task Force Minutes, 24 March 1992).

Uniform outcome standards would more accurately communicate the skills of graduates to prospective employers, but Cheryl Boche, resource team member, cautioned that if these standards were enacted, it is important for employers to be part of their definition (Task Force Minutes, 24 March 1992). Ms. Clinton also noted that the development of common standards was a potent issue that public and private organizations must work on cooperatively (Task Force Minutes, 8 October 1991).

Develop Strategies to Assess Success

Ms. Clinton noted during her presentation that a high-performance school would use multiple assessments to determine student competencies and skills. Attaining certain skill levels—as in apprenticeship programs—would permit students to continue in a program or gain certification (Task Force Minutes, 8 October 1991). Dr. Wirt also noted that the National Council on Education Standards and Testing is formulating national benchmarks in five subject areas that states and localities can use to measure the level of current student competencies, as well as the level at which students need to learn in the future (Task Force Minutes, 23 January 1992). Ms. Robinson said that validating a broad range of skill competencies through multiple assessment would also enhance the self-esteem of students (Task Force Minutes, 23 January 1992).

Conclusion

The discussions and presentations of the task force outlined the crucial importance of collaboration between public and private sectors to successful transitions. Without true public-private partnerships, the effectiveness of any transition system will be limited and prone to failure.

APPENDIX ONE

LEGISLATION REGARDING THE TASK FORCE ON EDUCATION AND EMPLOYMENT TRANSITIONS[7]

Subdivision 1. DEFINITION. For the purposes of this section, "education and employment transitions" means those processes and structures that provide an individual with awareness of employment opportunities, demonstrate the relationship between education and employment and the applicability of education to employment, identify an individual's employment interests, and assist the individual to make transitions between education and employment.

Subdivision 2. TASK FORCE ON EDUCATION AND EMPLOYMENT TRANSITIONS. The State Council on Vocational Technical Education shall establish a task force on education and employment transitions.

Subdivision 3. PLAN. The task force shall develop a statewide plan for implementing programs for education and employment transitions. The plan shall identify:

1. Existing public and private efforts in Minnesota that assist students to make successful transitions between education and employment;
2. Programs in other states and countries that are successfully preparing individuals for employment;
3. How to overcome barriers that may prevent public and private collaboration in planning and implementing programs for education and employment transitions;
4. The role of public and private groups in education and employment transitions;
5. New processes and structures to implement statewide programs for education and employment transitions;
6. How to integrate programs for education and employment transitions and outcome-based education initiatives;
7. How to implement programs for education and employment transitions in Minnesota; and
8. Models for administrative and legislative action.

Subdivision 4. MEMBERSHIP. The task force shall include:

1. The members of the Higher Education Advisory Council under Minnesota statutes, section 136A.02, subdivision 6, or members' designees;
2. The Executive Director of the Higher Education Coordinating Board or the executive director's designee;

7 Laws of Minnesota for 1992, Chapter 265, Articles 8, Section 16.

3. The Commissioner of Jobs and Training or the commissioner's designee;
4. The Commissioner of Trade and Economic Development or the commissioner's designee;
5. The Commissioner of Human Services or the commissioner's designee;
6. The Commissioner of Labor and Industry or the commissioner's designee;
7. Up to ten members who represent the interests of education, labor, business, agriculture, trade associations, local service units, private industry councils, and appropriate community groups selected by the State Council on Vocational Technical Education;
8. Two Members from the House of Representatives appointed by the Speaker of the House of Representatives; and
9. Two members from the Senate, appointed by the Subcommittee on Committees of the Committee on Rules and Administration.

Subdivision 5. PLAN DESIGN. The State Council on Vocational Technical Education shall select up to nine members appointed to the task force who represent the interests of business, labor, community, and education to serve as a plan design group for the plan described in Subdivision 3. The task force shall make recommendations to the plan design group on the merits of the plan design.

Subdivision 6. ASSISTANCE OF AGENCIES. Task force members may request information and assistance from any state agency or office to enable the task force to perform its duties.

Subdivision 7. REPORT AND RECOMMENDATION. The task force shall provide an interim report describing its progress to the Legislature by February 15, 1992. The task force shall report its plan and recommendations to the Legislature by January 15, 1993.

APPENDIX TWO

MEETINGS OF THE TASK FORCE ON EDUCATION AND EMPLOYMENT TRANSITIONS

Meeting Date	Meeting Time	Type of Meeting
5 September 1991	9:00 a.m. - 12:00 noon	Transitions Resource Team
26 September 1991	9:00 a.m. - 3:30 p.m.	Task Force on Education and Employment Transitions
8 October 1991	2:30 p.m. - 5:00 p.m.	Task Force on Education and Employment Transitions
21 October 1991	1:00 p.m. - 4:00 p.m.	Transitions Resource Team
31 October 1991	8:30 a.m. - 3:00 p.m.	Task Force on Education and Employment Transitions
20 November 1991	8:45 a.m. - 3:30 p.m.	Task Force on Education and Employment Transitions
19 December 1991	8:30 a.m. - 11:30 a.m.	Transitions Resource Team
17 January 1992	8:30 a.m. - 11:30 a.m.	Transitions Resource Team
23 January 1992	8:30 a.m. - 3:30 p.m.	Task Force on Education and Employment Transitions
6 February 1992	8:30 a.m. - 3:30 p.m.	Task Force on Education and Employment Transitions
14 February 1992	1:00 p.m. - 3:00 p.m.	Transitions Resource Team
25 February 1992	8:30 a.m. - 3:45 p.m.	Task Force on Education and Employment Transitions
2 March 1992	3:00 p.m. - 4:30 p.m.	Transitions Resource Team
24 March 1992	8:30 a.m. - 3:30 p.m.	Task Force on Education and Employment Transitions
21 April 1992	8:30 a.m. - 3:30 p.m.	Task Force on Education and Employment Transitions
12 May 1992	8:30 a.m. - 3:00 p.m.	Task Force on Education and Employment Transitions
19 May 1992	8:30 a.m. - 3:30 p.m.	Task Force on Education and Employment Transitions
16 June 1992	8:30 a.m. - 1:30 p.m.	Plan Design Group
23 June 1992	8:30 a.m. - 3:00 p.m.	Task Force on Education and Employment Transitions
24 July 1992	8:30 a.m. - 12:00 noon	Plan Design Group
5 August 1992	8:30 a.m. - 12:00 noon	Plan Design Group

Meeting Date	Meeting Time	Type of Meeting
13 August 1992	8:30 a.m. - 12:00 noon	Transitions Resource Team
27 August 1992	8:30 a.m. - 3:00 p.m.	Plan Design Group
28 August 1992	8:30 a.m. - 12:00 noon	Transitions Resource Team
3 September 1992	3:00 p.m. - 7:00 p.m.	Plan Design Group
9 September 1992	1:00 p.m. - 5:00 p.m.	Transitions Resource Team
16 September 1992	8:30 a.m. - 12:00 noon	Plan Design Group
22 September 1992	8:30 a.m. - 12:00 noon	Transitions Resource Team
23 September 1992	8:30 a.m. - 12:00 noon	Plan Design Group
1 October 1992	8:30 a.m. - 3:00 p.m.	Plan Design Group
2 October 1992	8:30 a.m. - 3:00 p.m.	Transitions Resource Team
14 October 1992	8:30 a.m. - 8:30 p.m.	Plan Design Group
27 October 1992	4:00 p.m. - 9:00 p.m.	Plan Design Group
4 November 1992	8:00 a.m. - 8:00 p.m.	Plan Design Group
13 November 1992	12:30 p.m. - 4:30 p.m.	Plan Design Group
1 December 1992	8:30 a.m. - 3:00 p.m.	Task Force on Education and Employment Transitions
3 December 1992	12:30 p.m. - 4:30 p.m.	Transitions Resource Team
11 December 1992	8:00 a.m. - 1:00 p.m.	Plan Design Group
18 December 1992	8:00 a.m. - 1:00 p.m.	Plan Design Group
23 December 1992	8:00 a.m. - 1:00 p.m.	Plan Design Group
29 December 1992	12:00 noon - 4:30 p.m.	Plan Design Group
6 January 1993	8:30 a.m. - 3:00 p.m.	Task Force on Education and Employment Transitions

APPENDIX THREE

SPEAKERS TO THE TASK FORCE ON EDUCATION AND EMPLOYMENT TRANSITIONS

Speaker	Meeting Date
Dennis D. Anderson Council of Growing Companies	25 February 1992
M. James Bensen Dunwoody Institute, Minneapolis	19 May 1992
Julie A. Bleyhl Minnesota Farmers Union	6 February 1992
R. Jane Brown Minnesota Department of Jobs & Training	23 January 1992 12 May 1992
Sandy Bryant 3M	23 June 1992
Al Christopherson Minnesota Farm Bureau Federation	6 February 1992
Hillary Rodham Clinton National Center on Education and the Economy	8 October 1991
Richard Cohon National Center for Manufacturing Science	20 November 1991
George H. Copa University of Minnesota	31 October 1991 21 April 1992
Stephanie Corbey Minnesota Department of Education	12 May 1992
Jeanette R. Daines State Board of Technical Colleges	19 May 1992
Ivory L. Giles St. Paul Technical College	23 June 1992
R. Thomas Gillaspy Office of the State Demographer	26 September 1991
Samuel Halperin William T. Grant Foundation	31 October 1991
Barbara H. (Bobbie) Henrie Minnesota Technology, Inc.	20 November 1992

Speaker	Meeting Date
James J. Hoskyn Minnesota House of Representatives	21 April 1992
Gene Johnson Minnesota Department of Education	21 April 1992
Somchay Kouanchao Center for Asian and Pacific Islanders	23 June 1992
John B. Lennes Minnesota Department of Labor and Industry	21 April 1992
Steven L. Lund Minnesota Employers Association	25 February 1992
Christine M. Matuzek Minnesota AFL-CIO	25 February 1992
Lawrence Mishel Economic Policy Institute, Washington DC	25 February 1992
Joseph H. Nathan University of Minnesota	20 November 1991
John Petraborg Minnesota Department of Human Services	12 May 1992
Tom Ryerson Minnesota Department of Education	19 May 1992
Elaine J. Salinas Minneapolis Urban Coalition	23 June 1992
Charlotte Sebastian Amherst H. Wilder Foundation, St. Paul	23 June 1992
Maureen Steinwall Minnesota Chamber of Commerce	6 February 1992
Thomas Stinson Office of the State Economist	23 January 1992
Tom Triplett Minnesota Business Partnership	25 February 1992
Robert Vanasek Minnesota High Technology Council	19 May 1992
Linda White-Anderson Minnesota OIC State Council and First Bank Broadway, Minneapolis	23 June 1992
John G. Wirt U.S. Department of Labor	23 January 1992

APPENDIX FOUR

BIOGRAPHICAL PROFILES

Task Force on Education and Employment Transitions

Richard J. Anfang is the Executive Secretary of the St. Paul Building and Construction Trades Council and a Vice-President of the Minnesota AFL-CIO. He completed a painting and decorating apprenticeship at the St. Paul Technical College, where he now serves on the Foundation Board of Directors and one of its advisory committees. Mr. Anfang also serves on the boards of the St. Paul United Way, the Dakota County Private Industry Council, the Twin Cities Labor Management Council, Labor Users Contractors, and the St. Paul Visitors and Convention Bureau. Mr. Anfang is a member of the Plan Design Group.

James E. Ashton is Vice President and General Manager of FMC, Naval Systems Division. He holds a B.S.C.E. degree from the University of Iowa, a M.B.A. degree from Harvard University, and M.S. and Ph.D. degrees from the Massachusetts Institute of Technology. Dr. Ashton has published more than 50 research papers, technical reports, and books and has taken leadership roles in numerous technical associations. He is a frequent lecturer at the Harvard Business School.

Tracy L. Beckman is the Minnesota State Senator from Bricelyn. He was elected in 1986 and reelected in 1990 and 1992. Senator Beckman, who received his B.S. degree from Mankato State University, is chair of the Crime Prevention Division of the Senate Finance Committee; and a member of the Education, Educational Funding, Governmental Operations and Reform, and Crime Prevention Committees. He also operates Ultra Rural Solutions, a consulting company offering computer services to businesses. He serves on various national, state, and local business and education boards. Senator Beckman is a member of the Plan Design Group.

M. James Bensen is President of Dunwoody Institute. He previously taught and served as the Dean of the School of Industry and Technology at the University of Wisconsin-Stout. Dr. Bensen holds a bachelor's degree from Bemidji State University, a master's degree from the University of Wisconsin-Stout; and a doctorate degree from the Pennsylvania State University. Both Bemidji State University and the University of Wisconsin-Stout honored him as an "Outstanding Alumnus." Dr. Bensen writes, speaks, and consults locally and nationally on a variety of subjects relating to change, technology, educational excellence, quality, and the future. He is a member of the Plan Design Group.

R. Jane Brown is Commissioner of the Minnesota Department of Jobs and Training. After receiving her B.S. degree from Winona State University, Commissioner Brown worked for Congressman Al Quie in Washington and then taught high school. She has devoted much of her career to serving the disadvantaged as State Energy Assistance Programs director, Head Start program director, a state training officer, and an in-school career development coordinator for disadvantaged youth. Commissioner Brown has worked more recently in the private sector as Executive Director of the Minnesota Chapter of the American Physical Therapy Association and the Director of Treasury and Benefit Plan Investments at Diversified Energies Inc./Minnegasco. She is a member of the Plan Design Group.

Nancy Christensen is Assistant Commissioner for the Workplace Services Division in the Minnesota Department of Labor and Industry.

George H. Copa is Professor and Chair of the Department of Vocational and Technical Education at the University of Minnesota. The recipient of Fulbright, Hayes, and Bush Leadership fellowships, Dr. Copa has published numerous research articles, monographs, and books. Among other activities, Dr. Copa has testified before congressional and legislative committees; served as the first editor of the Journal of Vocational Education Research; studied vocational education in Portugal, Nigeria, and Germany; and been an active member of the Strategy Design Group for Secondary Vocational Education in Minnesota and the Task Force on Technology Competence. He is the President-elect of the Minnesota Vocational Association.

Walter J. Cullen is Director of Staff Development for the Minnesota Community College System. He was educated at St. Paul Seminary; University of Louvain, Belgium; University of Notre Dame and the University of Minnesota. He has taught at the Minneapolis Community College, Metropolitan State University, and in Tanzania. He has held various administrative and staff training positions in Minnesota higher education institutions.

Allen Gerber is the Executive Director of the Minnesota Association of Cooperatives. Mr. Gerber was educated at the University of Minnesota. He has served in the Peace Corps in Kenya and in the United States Army at the Pentagon. He did public education work for the Minnesota Association of Cooperatives before becoming its Executive Director. Mr. Gerber is President of the Board of Directors of the Cooperative Foundation; a member of the boards of the Minnesota Highway Users Federation; the U.S. Overseas Cooperative Development Committee; the National Cooperatives Business Association, and the 4-H Foundation. He is also a director of Group Health, Inc.

Joseph P. Graba is the Deputy Executive Director of the Minnesota Higher Education Coordinating Board. Mr. Graba was educated at Bemidji State University and Northern Colorado University. He has been a science teacher, Vice President of the Minnesota Federation of Teachers, a three-term member of the Minnesota House of Representatives, deputy commissioner of education for the State of Minnesota, district office director of Fifth District U.S. Congressman Martin Sabo, executive assistant to the majority leader of the Minnesota State Senate, and State Director of the Minnesota State Board of Vocational Technical Education. He has served on a number of task forces and committees at the state and national level. Mr. Graba is a member of the Plan Design Group.

Dean P. Hartle served as a member of the Minnesota House of Representatives from 1985 to 1993. He represented Steele and Dodge Counties. Representative Hartle, who received his B.S. in agricultural economics, is a farmer. He also has owned and managed an insurance business. Representative Hartle served on the House Regulated Industries, Financial Institutions and Insurance, Labor Management Relations, K-12 Education/Education Finance Division, Higher Education Policy, and Energy committees and is active in other community and professional organizations.

Barbara (Bobbie) H. Henrie is the Director of Special Projects for Minnesota Technology, Inc. where she is responsible for youth apprenticeship, regional technology cooperation, and defense conversion. Ms. Henrie is a former senior program officer for both the Northwest Area and the St. Paul Foundations. Prior to living in Minnesota, Ms. Henrie, who received her B.A. at Pennsylvania State University, was director of several programs of the German Marshall Fund of the United States in Washington, DC; owner-manager of a small business in Rhode Island; and held

several positions designing and implementing programs for foreign leaders visiting the United States.

Joseph A. Hobson is Superintendent of Schools in Pine City where he has leadership responsibilities for the school district and Pine Technical College. He received his B.S. degree from the University of Minnesota, his M.S. degree from Mankato State University, and his Ed.D. degree from the University of California, Santa Barbara. Dr. Hobson has directed educational cooperative centers, served as a principal, taught industrial education, worked in private industry, and owned a small business. He is a member and officer of numerous professional and community organizations; has written many articles and pamphlets; and received professional awards of recognition, including a Bush Executive Fellowship.

Carole M. Johnson is the Chancellor of the State Board of Technical Colleges. She received her undergraduate and master's degrees from the University of Southern Mississippi and her doctorate from Ohio State University. As an associate vice-president of the Colorado Community College and Occupational Education System, Chancellor Johnson managed distribution of the state's federal vocational education monies and directed management information systems, professional development, student services activities, and research and planning. The chancellor, who has also taught and directed projects in Washington, DC, Virginia, Massachusetts, Ohio, Nevada, and Mississippi, is a former member of the board of directors of the American Vocational Association.

Kris K. Knutson is a Financial Assistance Specialist with Anoka County Human Services. Ms. Knutson, who has a B.S. degree from Iowa State University, was employed by Hennepin County for over 12 years, working with a variety of public assistance programs, including Food Stamps, AFDC, General Assistance, and the Emergency Assistance Program. She has also facilitated women's self-worth groups through Chrysalis Women's Center in Minneapolis.

David Krogseng is Executive Director of the Minnesota Association of Private Postsecondary Schools. Educated at the University of Minnesota, Mr. Krogseng is also a public affairs consultant, a former Executive Director of the Hennepin County Board of Commissioners, and a former Republican State Chairman. He is a member and former president of the board of the Mental Health Association of Minnesota, the Minneapolis Youth Diversion Program, and the Minnesota Governmental Relations Council and a member of the board of the Alfred Adler Institute.

BonnieRae Lowe is the Employment and Training Coordinator for the Minnesota Chippewa Tribe. In addition, she works with several Native American education programs in northern Minnesota. Ms. Lowe has committed over 17 years to working with the unemployed, under-employed, and public assistance recipients.

Gene Mammenga is the Commissioner of the Minnesota Department of Education. He was educated at St. Cloud State University and the University of Minnesota. Commissioner Mammenga has taught American history at the high school and college levels. He served two terms as a Minnesota State Senator and was formerly a legislative representative for the St. Paul School District, the State University System, and the Minnesota Education Association. Commissioner Mammenga is a member of the Plan Design Group.

John W. Mercer is Executive Director of the State Council on Vocational Technical Education. Prior to his appointment to the Council in 1982, he was a planning and policy analyst with the State Planning Agency, the University of Minnesota and Macalester College in St. Paul. Dr. Mercer has served on the Secondary Vocational Education Strategy Design Group, the Secondary Vocational Evaluation Group, and the Administrative Support Team to the Commissioner of Education's Task

Force on Education for Employment. He was recently awarded the 1992 Distinguished Service Award from the Minnesota Vocational Association. Dr. Mercer served as the chair and a member of the Plan Design Group, the Task Force on Education and Employment Transitions, and the Transitions Resource Team.

Ken Nelson served in the Minnesota House of Representatives for 10 terms until 1993. He is a former Lutheran clergyman educated at Augsburg College, Luther Northwestern Theological Seminary, the Humphrey Institute's Reflective Leadership Seminar, and Harvard University. He has served various parishes as pastor, introduced educational legislation, established several human service and educational organizations, and worked with the Danforth Foundation. He has studied in India, worked in Ethiopia, and led educational delegations to several countries.

Gen Olson is a member of the Minnesota Senate, being first elected in 1982 and most recently re-elected in 1992. She received her B.S. and doctorate in education from the University of Minnesota, where she has conducted research for the Minnesota Research and Development Center for Vocational Education. Dr. Olson has directed secondary vocational education programs, taught vocational home economics, and consulted on vocational program planning and development. She is a current board member of the Ridgeview Foundation and Senior Community Services; holds membership in several professional and honorary organizations; and has received a variety of service award recognitions.

Paul Redin is Director of Career Counseling and Placement at Bethel College.

Rhoda Robinson is a transition specialist with the Duluth Public Schools. She received a B.A. degree from Emory University, a M.A. degree from the University of Illinois, a M.Ed. degree from Harvard University and is currently completing her doctorate at the University of St. Thomas. Ms. Robinson has taught in the special education department at the University of Minnesota-Duluth and served as a work experience coordinator for Duluth Public Schools. She is the recipient of a number of awards, including a Bush Leadership grant and the Teacher of the Year award from the Minnesota Association for Retarded Citizens. She is a member of several professional and civic organizations, including serving as president of the Duluth Special Olympics. Ms. Robinson is a member of the Plan Design Group.

Jacqui L. Shoholm is the Program Manager in the Job Creation Training Section of the City of St. Paul Department of Planning and Economic Development. She has held senior positions with the City of St. Paul for over 19 years in the areas of planning and administration of federal, state, and county programs under the Comprehensive Employment Training Act (CETA), the Job Training Partnership Act (JTPA), Community Development Block Grant (CDBG), and Urban Development Action Grants (UDAG). Ms. Shoholm is a member of several national and community organizations including the Employment and Training Council of the United States Conference of Mayors, the General Advisory Committee of the St. Paul Technical College, and the Board of the Penumbra Theatre of which she is presently the president. Ms. Shoholm completed her undergraduate work in sociology at the University of Wisconsin and graduate work at the University of Minnesota and the Simmons Graduate School of Management, where she was a Bush Fellow. Ms. Shoholm was also a McKnight Fellow to the Salzburg Seminar in Austria in 1990.

Eugene W. Steele recently retired from the 3M Company where he served as the Manager of Educational Contributions Programs and an officer on the 3M Foundation. He is currently serving as the chair of the Ramsey County Private Industry Council; a board member of the Minnesota Council on Economic Education, a board member of the Northwoods Audobon Society, and a trus-

tee of Hamline University. Mr. Steele has served on national and international college placement organizations and is currently serving as Director of the College Placement Council Foundation. He has lectured at colleges and universities throughout the United States and England. Mr. Steele is the immediate past chair of the Minnesota Charities Review Council and the Long Range Planning Committee of the St. Paul Community Development Council. He is a former council member of the City of Falcon Heights. He is a member of the Plan Design Group.

Natalie Haas Steffen is the Commissioner of the Minnesota Department of Human Services. She was formerly a long-term Anoka County Commissioner and an administrator in Minnesota, California, North Dakota, and Thailand. She is a member of numerous state and national committees, boards, and organizations and is the recipient of awards from such organizations as the National Association of Counties Training and Employment Professions, the U.S. Department of the Interior, the Minnesota Department of Health, and the Minnesota Public Transit Association.

Gavin M. Strand is the Director of Career and Placement Services and Professor of Educational Administration at Winona State University. Dr. Strand has B.S., B.A., M.A., and Ph.D. degrees from the universities of Minnesota, Colorado, and Wisconsin. He currently serves on the Minnesota Steering Committee for Implementation of the National Career Development Guidelines and in numerous other professional and civic organizations. He has received the Wisconsin School Administrator of the Year Award and presented papers at numerous professional conferences.

Benjamin C. Wright is the State Executive Director of the Minnesota Opportunities Industrialization Centers State Council. For more than 20 years, Mr. Wright has worked in many capacities for OICs at the state, regional, and national levels. Prior to his tenure with OIC, Mr. Wright was personnel director for 12,000 employees in the Western Region of Penn Central Railroad. He began his career as a youth worker in a Philadelphia neighborhood house. Mr. Wright received his B.S. degree from Temple University and has also attended the Pennsylvania State University and the University of Pennsylvania. He is a member of the Plan Design Group.

Alternates

For R. Jane Brown

Lynne M. Batzli's biographical profile is under the Transitions Resource Team.

Beverly Kontola's biographical profile is under the Transitions Resource Team.

For Nancy Christensen

Carmen Robles is Assistant to the Commissioner of Labor and Industry. A former director of the Minnesota Hispanic Chamber of Commerce and a former administrator at Honeywell, Inc., Ms. Robles serves on the boards of Neighborhood House, the Minnesota Hispanic Education Program, and the Midwest Farm Workers Employment and Training Program. She is a member of the U.S. Hispanic Chamber of Commerce, the National Council de la Raza, and the National Hispanic Scholarship Fund. Ms. Robles, who is currently enrolled in a degree program at Metropolitan State University, has received recognition awards from several state and national organizations. She was also chosen as a delegate to Mexico City to discuss the North American Free Trade Agreement, and to Germany and Denmark to study youth apprenticeship programs.

For George H. Copa

James M. Brown's biographical profile is under the Transitions Resource Team.

For Carole M. Johnson

Greg R. Meunier is Special Assistant to the Chancellor of the State Board of Technical Colleges. Mr. Meunier holds a B.A. and an M.A. in Educational Policy and Administration from the University of Minnesota. He has been a secondary teacher and an instructor at Hennepin Technical College, and a program manager and special assistant at the State Board of Technical Colleges. Mr. Meunier has an active interest in workforce development issues, organizational development, and Total Quality Management. He currently serves as chair of the advisory committee at his local elementary school.

For David Krogseng

Thomas B. Kosel is the Director of the Minneapolis Drafting School in Crystal. He holds a B.S. degree from the University of Minnesota and a M.A. degree from the University of St. Thomas. He has also been a classroom teacher at Benilde-St. Margaret's High School and a coach at the University of St.Thomas.

For Gene Mammenga

Ceil Critchley is an Assistant Commissioner for the Minnesota Department of Education.

Norena A. Hale is the Assistant Commissioner for the Division of Rehabilitation Services at the Minnesota Department of Jobs and Training. Previously she was the Manager of the Curriculum Service Section of the Minnesota Department of Education. Prior to this, Dr. Hale managed the Unique Learner Needs and Special Education sections at the department. She is a former president and member of the executive board of directors of the National Association of State Directors of Special Education. Dr. Hale holds a B.S. degree from Northwest Missouri State University; a M.S. degree from Central Missouri State University; and a Ph.D. degree from the University of Minnesota.

For Ken Nelson

Carlos Mariani-Rosa is a Minnesota State Representative from St. Paul. He was educated at Macalester College and the University of Minnesota. In addition to his work as a Legislator, Mr. Mariani is program director for Hispanic ministry of the Minnesota Council of Churches. He has served on various boards of non-profit organizations and received the "Race, Church, and Change" award from Luther Northwestern University.

For Natalie Haas Steffen

John Petraborg is the Assistant Commissioner of the Family Self-Sufficiency Administration of the Minnesota Department of Human Services. He has a B.A. degree from St. Olaf College and a M.S.W. degree from the University of Minnesota. Mr. Petraborg formerly directed the Assistance Payments Division of the Minnesota Department of Human Services, supervised social services in Brown County, and practiced social work in Crow Wing County. He has served as President of the National Association of Public Welfare Quality Control Directors and is active in legislation both at the state level through his position with the state and at the national level through his work with the American Public Welfare Association.

Transition Resource Team

Barb Anderson is the Director of the Quality Initiatives Division of the Minnesota Department of Human Services. She is working towards her B.A. at Augsburg College. Ms. Anderson is a mem-

ber of the American Public Welfare Association and the National Social Service Association. Prior to her nine years of service with the Department of Human Services, she worked for Dakota and Scott counties. In addition, Ms. Anderson is involved in numerous volunteer activities.

Lynne M. Batzli is the Executive Assistant to the Commissioner of the Minnesota Department of Jobs and Training. She holds B.A. degrees in international relations and political science from the University of Minnesota and a M.A. degree in international affairs from George Washington University. Ms. Batzli was formerly a legislative assistant to U.S. Senator Rudy Boschwitz in Washington, D.C. and on the staff of Independent Republican Caucus in the Minnesota House of Representatives. She began serving on the Transitions Resource Team in July 1992.

Cheryl Boche is the Business Internship Coordinator and an instructor at Park Senior High School in Cottage Grove. She is also an adjunct faculty member in business education and vocational education at Mankato State University and the University of Minnesota. Ms. Boche, who holds a B.S. from Moorhead State University and a M.A. degree from Mankato State University, is a member of several professional organizations; has participated in numerous state-level education committees and task forces; has published curricula and workflow guides; and has made many professional presentations on a state and national level.

James M. Brown is Associate Professor of Vocational and Technical Education at the University of Minnesota and Director of the Minnesota Research and Development Center for Vocational Education. He received his B.S. and M.Ed. degrees at the University of Illinois and his Ph.D. at Bowling Green University. Dr. Brown has done extensive research and published widely in the fields of special needs education for at-risk learners, including persons with disabilities, and career and technology education. He is an adjunct faculty member of the Education Psychology Department/Special Education Program at the University of Minnesota.

Leo G. Christenson is the Research Analyst for the Minnesota State Council on Vocational Technical Education. He holds a B.A. degree in political science from Pennsylvania State University and a M.A. degree in Educational Policy and Administration from the University of Minnesota. Mr. Christenson is currently completing a doctorate at the University of Minnesota. He is a volunteer with the St. Paul Y.M.C.A. and a member of several professional associations. Mr. Christenson served as the secretary to the Task Force on Education and Employment Transitions, the Plan Design Group, and the Transitions Resource Team.

Charles E. Curren is currently the Director of Labor Standards at the Minnesota Community College System. Prior to this, he was the Policy Analysis Director for the Minnesota Department of Labor and Industry. Mr. Curren has also held management positions with the State University System and the Government of the Virgin Islands. He holds a B.A. in Public Administration from the Metropolitan State University. Mr. Curren served on the Transitions Resource Team until September 1992.

Jeanette R. Daines is the manager of international education, tech prep, and community board organization projects and other special projects for the Minnesota Board of Technical Colleges. Dr. Daines, who holds B.S. and M.S. degrees from the University of Wisconsin-Stout and a Ph.D. degree from the University of Minnesota, has received awards from the American Vocational Association and the U.S. Agency for International Development. She has published widely, participated in numerous professional organizations, taught at the university level, and held various positions with the Minnesota State Board of Technical Colleges.

Joan Davis Feickert is an Administrative Fellow at the State Council on Vocational Technical Education. Ms. Feickert holds B.S. and M.A. degrees from the University of Minnesota and is currently completing her doctorate there. A member of several civic and professional organizations, Ms. Feickert was also a long-time teaching associate for the University of Minnesota, has served as medical technologist at Midway Hospital in St. Paul, and has taught at St. Paul Technical College.

Ann C. Grindland is a Policy Analyst and Program Coordinator with the Minnesota Higher Education Coordinating Board. She has a B.A. degree from Concordia College and a M.A. degree from the University of Minnesota. Ms. Grindland, a former junior high school English teacher, was named "Teacher of the Year" in Alexandria, and received an Outstanding Young Women of America award. She is a member of an interracial choir and several professional associations.

James J. Hoskyn served as the Committee Administrator for the Education Finance Division of the Minnesota House of Representatives until 1993. He has a B.S. in journalism and mass communications from the University of Iowa. Prior to his work with the Minnesota House of Representatives, Mr. Hoskyn was a newspaper reporter, editor, and a public information officer for the Minnesota State Board of Technical Colleges.

Kristine L. Jacobs is the Executive Director of the statewide JOBS NOW Coalition in St. Paul. Ms. Jacobs has worked for 20 years as a public policy advocate, 12 of them in Washington, DC where she directed the National Family Farm Coalition and the Interchange Resource Center. Ms. Jacobs is co-founder of the OMB Watch. She has also worked for the United Steelworkers of America and as labor liaison for the National Cambodia Crisis Committee and the Center for Immigration and Refugee Affairs at Georgetown University.

Beverly Kontola is a manager at Liberty Check Printers, Inc.. Prior to this, she was the Executive Assistant to the Commissioner of the Minnesota Department of Jobs and Training. Ms. Kontola has also held positions with the Minnesota Senate, Eco-Lab, Peoples National Bank, and Hennepin County. She holds a B.A. in Public Administration from Hamline University. Ms. Kontola served on the Transitions Resource Team until July 1992.

Drew B. Larson is a Policy Analysis Specialist for Minnesota Technology, Inc., where he researches and analyzes Minnesota's computer, environmental, manufacturing, and other technology-related industries. In addition, Mr. Larson provides research support to Minnesota Technology's five offices in Greater Minnesota. He has worked with the U.S. International Trade Commission, the Office of Technology Assessment, the Congressional Budget Office, and the Ways and Means Committee of the United States House of Representatives. Mr. Larson holds a B.S. degree in public administration from the University of North Dakota and a master's degree in public policy from the University of Maryland.

Alicia R. Phillips is a Research Analyst in the Research and Education Unit of the Minnesota Department of Labor and Industry. Ms. Phillips holds a B.A. in political science and history from Macalester College in St. Paul where she graduated with distinction. Ms. Phillips has worked for a variety of public and private organizations including the Policy Research Action Group and Management Cornerstones, both in Chicago, and with Mid-Minnesota Legal Aid in Minneapolis. She also volunteers on community service projects involving young people. Ms. Phillips began serving on the Transitions Resource Team in September 1992.

Charles T. Rice is a Senior Executive Budget Officer with the Minnesota Department of Finance. Mr. Rice, who holds B.S., J.D. and M.B.A. degrees, has been an assistant city manager in California and Iowa; director of the Council of Government in an Ohio city; a policy analyst in Illinois;

and assistant director of the Association of Minnesota Counties. Mr. Rice has held office in professional organizations and participates in civic organizations and community activities.

Craig Schoenecker is a Director of Research with the Minnesota Community College System.

Nicholas L. Waldoch is the Supervisor of the Secondary Vocational Education Section of the Minnesota Department of Education. He holds a B.A. degree from St. Cloud University and a M.A. degree from the University of Minnesota. Mr. Waldoch was the administrator of a cooperative center for seven years, taught for eight years at the secondary level, and worked in business and industry for twelve years. He is a member of numerous civic and professional organizations.

Maja Weidmann is a Legislative Analyst for the Minnesota Senate. She holds a Ph.D. in Educational Administration from the University of Wisconsin. Dr. Weidmann was formerly the Associate Director of the State Superintendent's Task Force on School Leadership, Training, and Licensure, at the Wisconsin Department of Public Instruction; a university instructor; and a speech and language consultant. Dr. Weidmann has also consulted with the Wisconsin Leadership Development Academy.

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TASK FORCE ON EDUCATION AND EMPLOYMENT TRANSITIONS

Community Representatives

Mr. Richard J. Anfang, Executive Secretary, St. Paul Building Trades Council •

Dr. James E. Ashton, Vice President and General Manager, Naval Systems Division, FMC Corporation

Mr. Allen J. Gerber, Executive Director, Minnesota Association of Cooperatives

Ms. Barbara H. Henrie, Director of Special Projects, Minnesota Technology, Inc.

Dr. Joseph A. Hobson, Superintendent, Pine City Public School District

Ms. Kris K. Knutson, Financial Assistance Specialist, Anoka County

Ms. BonnieRae Lowe, Employment and Training Coordinator, Minnesota Chippewa Tribe

Mr. Eugene W. Steele, Manager, 3M Educational Contributions Program •

Mr. Benjamin C. Wright, Executive Director, Minnesota OIC State Council •

Minnesota Senate

Senator Tracy L. Beckman, Bricelyn •

Senator Gen Olson, Minnetrista

Minnesota House of Representatives

Representative Dean Hartle, Owatonna

Representative Ken Nelson, Minneapolis

Alternate

Representative Carlos Mariani, St. Paul

University of Minnesota

Dr. George H. Copa, Chairperson, Department of Vocational and Technical Education, University of Minnesota

Alternate

Dr. James M. Brown, Director, Minnesota Research and Development Center for Vocational Education

Minnesota State University System

Dr. Gavin M. Strand, Director, Career Planning and Placement Services, Winona State University

Minnesota Community College System

Mr. Walter J. Cullen, Director of Faculty Development, Minnesota Community College System

Minnesota Technical College System

Chancellor Carole M. Johnson, State Board of Technical Colleges

Alternate

Mr. Greg R. Meunier, Special Assistant to the Chancellor, State Board of Technical Colleges

Minnesota Private College Council

Mr. Paul Redin, Director of Career Counseling and Placement, Bethel College

Minnesota Association of Private Postsecondary Schools

Mr. David Krogseng, Minnesota Association of Private Postsecondary Schools

Alternate

Mr. Thomas B. Kosel, Director, Minneapolis Drafting School

Minnesota Department of Education

Commissioner Gene Mammenga, Minnesota Department of Education •

Alternates

Dr. Ceil Critchley, Assistant Commissioner, Minnesota Department of Education

Dr. Norena A. Hale, Manager, Curriculum Services Section, Minnesota Department of Education

Minnesota Higher Education Coordinating Board

Mr. Joseph P. Graba, Deputy Executive Director, Minnesota Higher Education Coordinating Board •

Minnesota Department of Jobs and Training

Commissioner R. Jane Brown, Minnesota Department of Jobs and Training •

Alternates

Ms. Lynne Batzli, Executive Assistant, Minnesota Department of Jobs and Training

Ms. Beverly Kontola, Executive Assistant, Department of Jobs and Training

Minnesota Department of Trade and Economic Development

Dr. M. James Bensen, President, Dunwoody Institute •

Minnesota Department of Human Services

Commissioner Natalie Haas Steffen, Minnesota Department of Human Services

Alternate

Mr. John Petraborg, Assistant Commissioner for Family Self-Sufficiency Services, Minnesota Department of Human Services

Minnesota Department of Labor and Industry

Ms. Nancy Christensen, Assistant Commissioner, Minnesota Department of Labor and Industry

Alternates

Charles E. Curren, Director of Policy Analysis, Minnesota Department of Labor and Industry

Ms. Carmen Robles, Youth Apprenticeship Coordinator, Minnesota Department of Labor and Industry

State Council on Vocational Technical Education

Dr. John W. Mercer, Executive Director, Task Force Chair •

Ms. Rhoda D. Robinson, Transition Specialist, Duluth Public Schools •

Mr. Leo G. Christenson, Research Analyst, Secretary to the Task Force

• Plan Design Group Member

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